MEMBER OF THE NYNOMIC GROUP

TUNE
WAVELENGTH CONVERTER

- 2.7 - 4.3 µm Input
- 763 - 853 nm Output
- Instant Conversion From MIR to VIS/NIR
- High Conversion Efficiency

Contact us: info@nlir.com +45 7174 7870

THE TECHNOLOGY

WAVELENGTH CONVERTER | TUNE

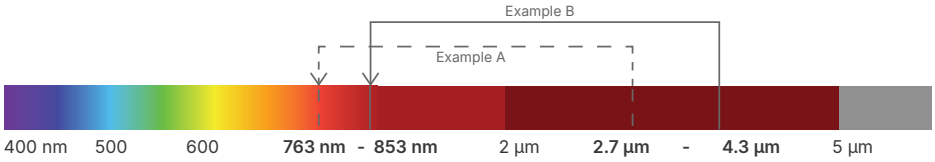
The NLIR wavelength converters convert mid-infrared light into visible/near-infrared light.

NLIR's TUNE Wavelength Converter efficiently converts a narrow spectral band within the 2.7 - 4.3 µm range directly to 763 - 853 nm with high conversion efficiency. The center wavelength can be precisely tuned, allowing selection of the exact wavelength for conversion.

With a conversion efficiency of up to 10%, the device ensures minimal thermal noise interference, as ambient infrared radiation is not converted and remains undetected. This technology enables the use of standard silicon-based detectors for mid-infrared light measurements.

Depending on the application and measurement requirements, various VIS/NIR detectors such as spectrometers, APDs, PMTs, or SPADs can be used to analyse the spectral or temporal content of the converted mid-infrared light.

For increased convenience, the device is fiber-coupled at both the input and output ports ■



The TUNE Wavelength Converter converts a specific wavelength between 2.7 µm - 4.3 µm to a specific wavelength between 763 - 853 nm.

DETAILS

NLIR's TUNE Wavelength Converter with detector.

NLIR's TUNE Wavelength Converter input and output.

TUNE Wavelength Converter	
Optical Bandwidth Input	2.7 - 4.3 µm
Optical Bandwidth Output	763 - 853 nm
Conversion Bandwidth	25 - 300 nm
Conversion Efficiency	10 %
Optical Input	SMA-905 Fiber Connector
Optical Output	FC/PC Fiber Connector
Polarization Sensitivity	Vertical
Power Consumption	60 - 90 W
Operating Temperature	18 - 30 °C
Measurements (L × W × H)	306 × 200 × 100 mm
Weight	5 kg
Mounting	4 × 1″ Posts

Do you have any questions? Do not hesitate to contact us: info@nlir.com +45 7174 7870

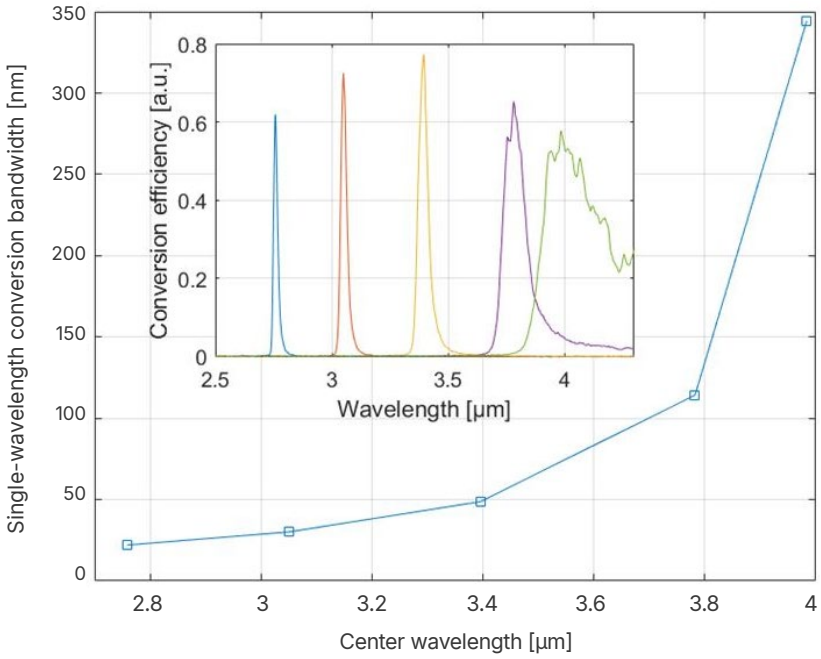
THE TECHNOLOGY AND TECH DRAWINGS

WAVELENGTH TUNING PROPERTIES

When tuning the wavelength conversion band, both the center wavelength and the bandwidth of the conversion change.

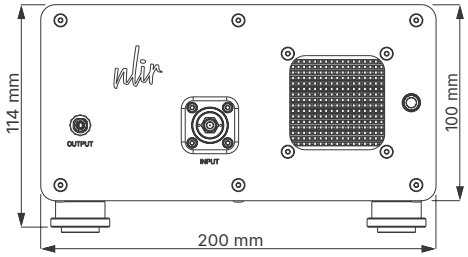
As shown in the figure, when setting shorter wavelengths near 2.7 µm to convert, the conversion bandwidth is approximately 25 nm. Conversely, when tuned to the longest wavelengths around 4.0 µm, the bandwidth expands to approximately 300 nm.

The inset displays actual measurements of the conversion efficiency at different tuning settings.

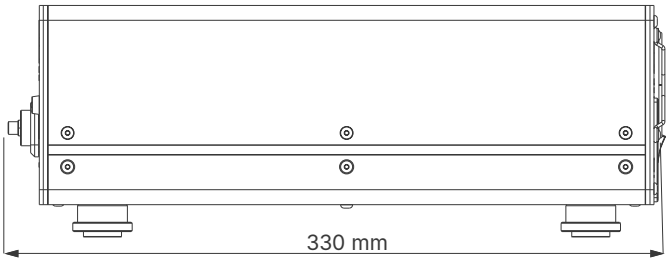


TECH DRAWINGS

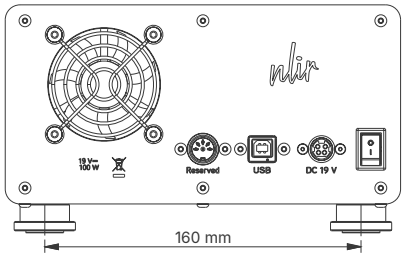
FRONT



SIDE



BACK



DESCRIPTION

The drawings provide detailed dimensions and an overview of NLIR's TUNE Wavelength Converter design.

The front view highlights the input port, output port and ventilation grille.

Note that all measurements are in mm ■