

S76120 Mid-Infrared Spectrometer

Data sheet

nlir

NLIR | Mid-Infrared Sensors

- 7.6 – 12.0 μm bandwidth
- 50 Hz full-spectrum readout rate
- High SNR
- 10-12 cm^{-1} resolution



The NLIR MIR Spectrometer is based on a novel measurement scheme that upconverts the MIR light to near-visible light. Silicon-based near-visible light detectors are far superior to MIR light detectors in terms of detectivity, speed and noise. The NLIR upconversion technology therefore brings these attractive features, and the advantages that follow, to the MIR regime.

The spectrometer comes with a simple GUI interface for easy plug-and-play measurements in various applications and also an API interface for MATLAB and Python and a C-compatible API (DLLs).

	S76120 Prototype	unit
Optical bandwidth	7.6 – 12.0	μm
Resolution ⁽¹⁾	8–10	cm^{-1}
Exposure time ⁽²⁾	1 – 200	ms
Max. readout rate	50	Hz
Field-of-view (full angle, FWHM)	2.1	$^{\circ}$
Bit depth	14	
Dark noise std. ⁽³⁾	7	counts
Minimum detection power in 100 ms	200	pW/nm
Optical input	Free-space input	
Polarization direction	Vertical	
Maximum operating temperature	30	$^{\circ}\text{C}$
Physical dimensions (H×L×W)	100 × 306 × 200	mm^3
Weight	5	kg

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⁽¹⁾ Depending on spectral bin; resolution best at lower wavelengths.

⁽²⁾ Exposure times below 10 ms behave nonlinearly; sensor collects light to some degree during readout time.

⁽³⁾ At minimum exposure time.