NLIR

Nonlinear Infrared Sensors

Mid-Infrared Spectrometers

Fast – Sensitive – Rugged

- Broadband operation from 5.0 – 12.5 µm / 800 – 2000 cm^{-1}
- Entire spectrum in milliseconds
- Very robust – no moving parts
- Based on novel upconversion technology

NLIR Mid-Infrared Spectrometer S50125

– a new paradigm in mid-infrared light detection

Mid-infrared (MIR) photospectroscopy is used in both industry and research for non-invasive characterisation of gasses, liquids and solids. The NLIR MIR spectrometer is based on a novel measurement scheme that upconverts the MIR light to near-visible light. Near-visible light detectors (for example CCD or CMOS arrays) are far superior to MIR light detectors (for example MCT arrays) 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 NLIR S50125 spectrometer covers a broad part of the MIR spectrum where the spectral fingerprints of many materials are located.

NLIR S50125 5.0-12.5µm MIR Spectrometer Prototype	
Bandwidth	5.0 – 12.5 µm / 800 – 2000 cm^{-1}
SNR @ 1 s	~ 4.000 (depending on light source)
Resolution	Down to 4 cm^{-1}
Min. exposure time	10.8 µs
Maximum spectrum readout rate	> 100 Hz
Optical input	Free space
Connection	Ethernet
Measurement options	Transmission, ATR
Bit depth	16 bit
Physical dimensions (h × l × w)	90 mm × 275 mm × 175 mm

NLIR – Hirsemarken 1, DK-3520 Farum, Denmark | www.nlir.com | info@nlir.com | +45 71 74 78 70