



# Datasheet

<b>MID-IR Spectrometer</b>	<b>EOC-SI-8200</b>
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### Features:

- Spectral range: 2.5-5  $\mu\text{m}$  (4000-2000  $\text{cm}^{-1}$ )  
Or 5.5-11 $\mu\text{m}$  (1818-909  $\text{cm}^{-1}$ )
- Detector: Pyroelectric linear array sensor (ZnSe)
- Detector pixels: 128pixels or 256pixels
- Ultra-low noise CCD signal processing circuit
- embedded MEMS, electrical modulated IR light source
- Measuring time: 30s (classical)
- 18 bit, 500 KHz ADC
- Data output via USB2.0
- Li battery life: 4 hrs
- Power supply: 110V/220V

### Description:

EOC-SI-8200 MID-IR spectrometer developed by EOC, and it employs Pyroelectric linear array sensor, linear variable filter(LVF), custom-made ultra-low noise CCD signal processing circuit, results in reducing sensor noise, improving SNR( 2 times higher SNR than competitors). Higher measuring reliability ensures results cannot change with ambient temperature.

EOC-SI-8200 employs 4-hrs built-in high capacity battery life, which is convenient to take and field operation.

### Application:

- Food safety
- Dye analysis
- Material identification
- Anti-counterfeiting authentication

P/N	Detector pixels	Spectral range
<b>EOC-SI-8200-1-5</b>	128pixels	2.5-5 $\mu\text{m}$
<b>EOC-SI-8200-1-11</b>	128 pixels	5.5-11 $\mu\text{m}$
<b>EOC-SI-8200-2-5</b>	256 pixels	2.5-5 $\mu\text{m}$
		5.5-11 $\mu\text{m}$



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## 1. Performance parameters:

Detector	
Type	Pyroelectric linear array sensor (ZnSe)
Spectral range	0.1-100 $\mu\text{m}$
Effective pixels	128 or 256 pixels
Pixel size	50 $\mu\text{m}$ x 417.5 $\mu\text{m}$ or 60 $\mu\text{m}$ x 500 $\mu\text{m}$
Dynamic range	75 dB
Scan rate	10-1000 Hz
Optical parameters	
Wavelength range	2.5-5 $\mu\text{m}$ (4000-2000 $\text{cm}^{-1}$ ) 5.5-11 $\mu\text{m}$ (1818-909 $\text{cm}^{-1}$ )
Optical resolution	72 nm
SNR	>300:1
Dynamic range	75 dB
Operating temperature	-10 - 45 $^{\circ}\text{C}$
Operating humidity	< 90%RH
Optical path	
Optical design	Linear Variable Filter, LVF
Light source type	embedded MEMS, electrical modulated IR light source
Light source life	>5000 hrs
Optical parameters	
Measure time	30 second (classical)
Data output	USB 2.0
ADC bit depth	18 bit
Power supply	110V/220V
Operating current	<0.5 A
Storage temperature	-20 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$
Operating temperature	-10 - 45 $^{\circ}\text{C}$
Physical parameters	
Size	165 $\times$ 98 $\times$ 50 mm <sup>3</sup>
Weight	0.92 kg