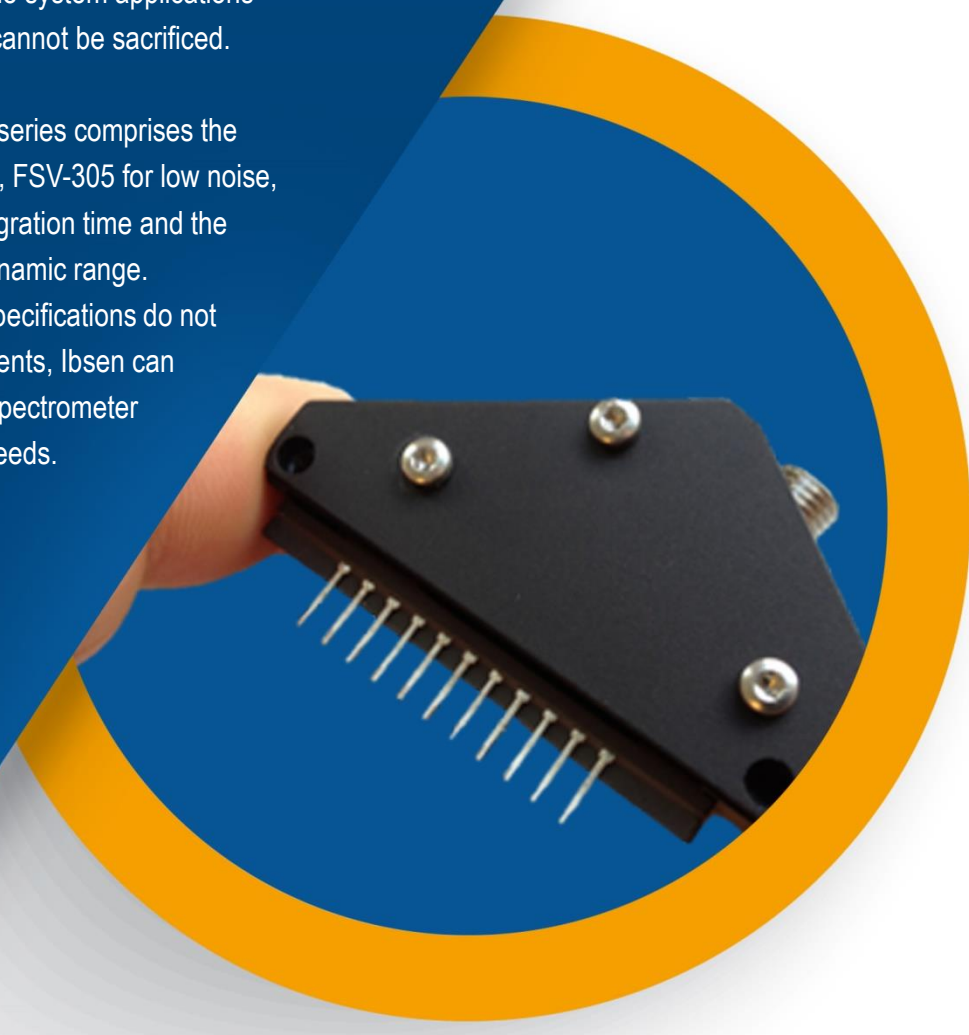


***Compact and cost-efficient  
Ideal for high performance  
portablesolutions***

**l b s e n**   
p h o t o n i c s

Ibsen's FREEDOM VIS spectrometers combine compactness and low cost with high performance and are the ideal OEM solution for all those handheld and portable system applications where performance cannot be sacrificed.

The FREEDOM VIS series comprises the FSV-101 for low cost, FSV-305 for low noise, FSV-380 for fast integration time and the FSV-245 for large dynamic range. Furthermore, if the specifications do not match your requirements, Ibsen can customize an OEM spectrometer to meet your exact needs.

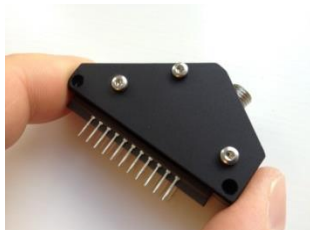


## **FREEDOM VIS**

**360 – 830 nm OEM Spectrometer**

# FREEDOM VIS 360 – 830 nm OEM Spectrometer

## Key Benefits



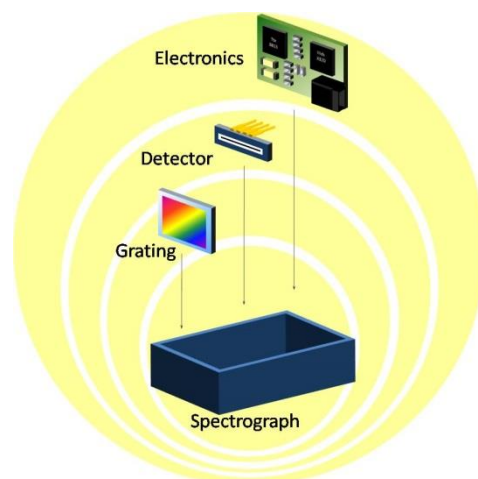
- **Small footprint**
- **Robust and athermal design**
- **Flexible detector and electronics**
- **Cost-efficient**

## Specifications

Parameter	FSV-101	FSV-245	FSV-305	FSV-380
Wavelength range	360 - 830 nm	360 - 830 nm	360 - 830 nm	360 - 830 nm
Numerical aperture	0.16	0.16	0.16	0.16
Typical resolution	1.3 nm/FWHM	1.3 nm/FWHM	1.8 nm/FWHM	1.3 nm/FWHM
Stray light	<0.03%	<0.03%	<0.03%	<0.03%
Detector	Hamamatsu S11639 CMOS	Hamamatsu S3903 NMOS	Hamamatsu S10420 BT-CCD	Hamamatsu S11156 BT-CCD
Interface	Direct interface to detector pins (optional electronics available)			
Temperature drift	<0.02 nm/Degree C			
Operating temperature range. Non-condensing	-10 to +45 Degree C			
Dimensions	25 mm x 48 mm x 16 mm			

## Modular Approach

Ibsen's OEM spectrometers are based on a modular design, whereby customers can choose to buy a complete spectrometer, a spectrograph or simply a spectrometer grating, depending on the approach that they prefer. Furthermore, our spectrometers can be fitted to almost any detector and electronics.



Specifications are subject to change without notice.