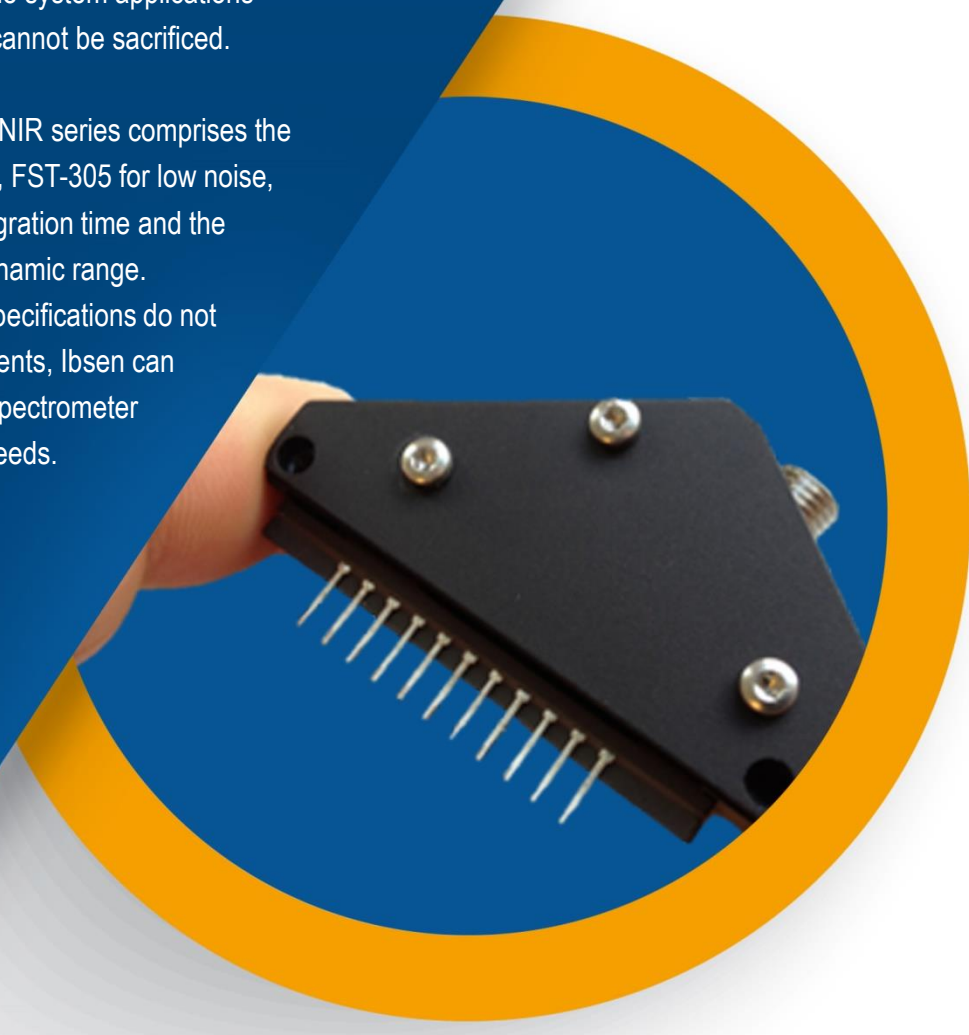


**Compact and cost-efficient
Ideal for high performance portable
solutions**

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

Ibsen's FREEDOM VIS-NIR 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-NIR series comprises the FST-101 for low cost, FST-305 for low noise, FST-380 for fast integration time and the FST-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.

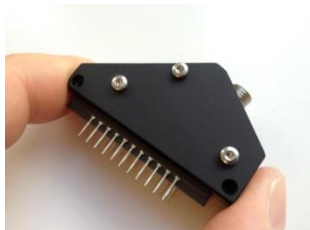


FREEDOM VIS-NIR

475 – 1100 nm OEM Spectrometer

FREEDOM VIS-NIR 475 – 1100 nm OEM Spectrometer

Key Benefits



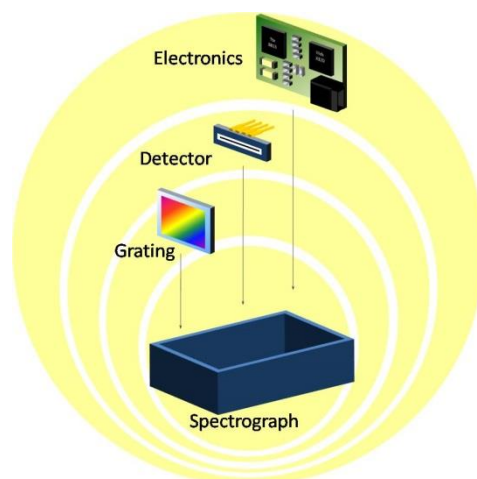
- **Small footprint**
- **Robust and athermal design**
- **Flexible detector and electronics**
- **Cost-efficient**

Specifications

Parameter	FST-101	FST-245	FST-305	FST-380
Wavelength range	475 - 1100 nm	475 - 1100 nm	475 - 1100 nm	475 - 1100 nm
Numerical aperture	0.16	0.16	0.16	0.16
Typical resolution	1.7 nm/FWHM	1.7 nm/FWHM	2.2 nm/FWHM	1.7 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	<0.03 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.