FS5

Spectrofluorometer

EDINBURGH INSTRUMENTS

The FS5 v2 is a high-performance, fully integrated spectrofluorometer designed for demanding research and analytical applications.

This compact benchtop system offers flexible source and detector configurations, adapting seamlessly to your needs.

Standard features include a photon-counting PMT detector for visible fluorescence and an absorption detector. Easily upgradeable, it supports NIR measurements up to 2050 nm, time-resolved fluorescence, phosphorescence, quantum yields, and anisotropy.

Key Features

12,000:1
Water Raman SNR, high sensitivity allows for detection of very weak fluorescence signals

Multiple detector ports
Two emission ports and NIR upgradeability makes the FS5 unique in its class

Rapid data acquisition
For steady state & lifetime

Plug & Play
Sample modules for easy setup and flexibiltiy

Two in One
Fluorescence and absorption measurements as standard

SPECIFICATIONS

STANDARD CONFIGURATION	Optics	All-reflective
	Detection Technique	Single Photon Counting
	Light Source	150 W Xenon arc lamp
	Monochromators	Czerny-Turner design with dual grating turret
	Spectral Coverage - Excitation	<230 nm - 1000 nm
	Spectral Coverage - Emission	200 nm - >870 nm
	Filter wheels	Fully automated and included as standard
	Bandpass - Excitation/Emission	0 - 30 nm, continuously adjustable
	Wavelength Accuracy	± 0.5 nm
	Scan Speed - Excitation/Emission	100 nm/s
	Integration Time	from 1 ms
DETECTORS	Emission Detector	Cooled Single Photon Counting, PMT-900, 200 nm - 870 nm
	Reference Detector	UV enhanced silicon photodiode, 200 nm - 1000 nm
	Absorbance Detector	UV enhanced silicon photodiode, 200 nm - 1000 nm
SENSITIVITY	Signal-to-Noise Ratio	>12000:1 *
	Water Raman measurement (SQRT method). λ_{ex} = 350 nm, bandpass = 5 nm, step size = 1 nm, integration time = 1 s, λ_{peak} = 397 nm, noise measured at 450 nm	
DIMENSIONS	W x D x H	104 cm x 59 cm x 32 cm
	Weight	65 kg

Upgrade Specifications

EXCITATION WAVELENGTH EXTENSION	Model	**UV+**			
	Excitation Coverage	<200 nm – 1000 nm			
EMISSION WAVELENGTH EXTENSION	Upgrade	**PMT-EXT**	**PMT-UC**	**NIRA1650**	**NIRA2050**
	Type	PMT Replacement	Additional Detector	Additional Detector	Additional Detector
	Emission Coverage	200 nm ->980 nm	200 nm - 1010 nm	870 nm ->1650 nm	870 nm ->2050 nm
	Lifetime possible	From ~90 ps	From ~120 ps	Spectral only	Spectral only
	Upgrade	**NIRT1400-TE**	**NIRT1700-TE**	**NIRL1400-LN**	**NIRL1650-LN**
	Type	Additional detector	Additional detector	Additional detector	Additional detector
	Emission Coverage	950 nm - 1400 nm	950 nm - 1650 nm	500 nm - 1400 nm	500 nm - 1650 nm
	Lifetime possible	From ~70 ps	From ~70 ps	From ~120 ps	From ~120 ps
POLARISATION / ANISOTROPY	Upgrade	**POL**			
	Spectral Coverage	220 nm - 900 nm excitation 350 nm - >2000 nm emission			
PHOSPHORESCENCE LIFETIME	Upgrade	**MCS**		**MCSL**	
	Lifetime Range (Source dependent)	<5 µs - >10 s		50 ns - >10 s	
FLUORESCENCE LIFETIME	Upgrade	**TCSPC**	**TCSPC+P**	**TCSPC++**	
	Lifetime Range (Source dependent)	90 ps - >10 µs	<25 ps - 10 µs	<15 ps - 10 µs	

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