

FS5

Spectrofluorometer



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 flexibility



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). $\lambda_{\text{ex}} = 350 \text{ nm}$, bandpass = 5 nm, step size = 1 nm, integration time = 1 s, $\lambda_{\text{peak}} = 397 \text{ nm}$, noise measured at 450 nm.	
A minimum SNR of 12000:1 is guaranteed. Systems with a higher sensitivity specification can be supplied upon request.	

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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