

Gemini XPS Microplate Reader

A DUAL-MONOCHROMATOR SPECTROFLUOROMETER SYSTEM



- NO FILTERS NEEDED
- HIGHER SENSITIVITY
- VALIDATION TOOLS
- ROBOTICS COMPATIBLE

The Gemini™ XPS Microplate Spectrofluorometer from Molecular Devices provides a flexible environment to determine the optimal excitation and emission settings for most fluorescent intensity assays. The Gemini XPS Reader has dual monochromators that allow users to utilize new and novel dyes without purchasing expensive filter sets. SoftMax® Pro Software, included with every Gemini XPS Reader, provides convenient data analysis. The optional SpectraTest® FL1 Validation Plate automatically validates the performance of the reader. Software validation, IQ/OQ/PQ and FDA 21 CFR Part 11 compliance tools are also available.

DUAL MONOCHROMATORS

With the Gemini XPS Reader, users don't have to worry about having the right set of filters. The system uses two scanning monochromators to determine the optimal excitation and emission settings. Assays vary depending on temperature or pH conditions; the monochromators allow users to select the optimal wavelength for any assay. Alternatively, literature values for the

monochromator can be easily entered. When methods or fluorophores change, it takes only a few software commands to adjust the reader.

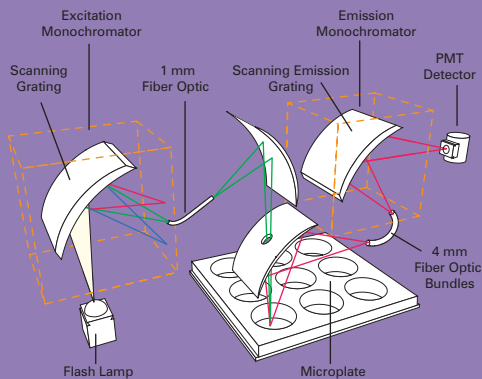
WELL SCANNING

With well scanning, multiple points within each well can be read, providing a high level of sensitivity for cell-based assays. Endpoint, kinetic and spectrum scanning assays can also be run.

PLATE STACKER AND ROBOT INTEGRATION

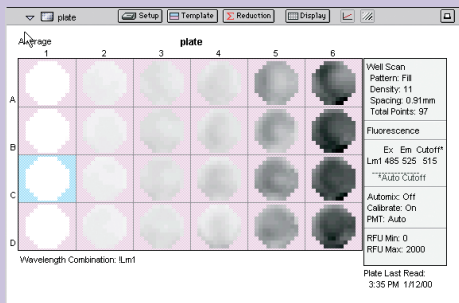
The Gemini XPS Reader can be integrated with Molecular Devices' StakMax® Microplate Stacker in a matter of minutes and begin reading microplates with seven mouse clicks. For a higher degree of automation, the Automation Vendor Partners Program has streamlined the integration of our microplate reader systems with all leading partner robots. The "out-of-the-box" automation solution saves up-front integration time and resources.

Gemini XPS Reader Optics



The optics of the Gemini XPS Reader are engineered for superior performance and reliability.

Gemini XPS Reader Well Scans



Well scans from the Gemini XPS Reader illustrating serial dilution of CHO cells using the Live Cell assay from Molecular Probes Live/Dead (Calcein AM /Ethidium Homodimer-1) assay kit. A Costar 24-well tissue culture plate with col1 = blanks and doubling cell concentration left to right starting at Col. 2 with 1000 cells.

Validation Test Plates for FI Optical Performance



The SpectraTest FL1 Validation Test Plate provides a complete solution for validating optical performance of the Gemini™ XPS reader.

LEADING DATA ANALYSIS SOFTWARE

SoftMax[®] Pro Microplate Data Analysis Software provides flexibility in experimental design, setup, analysis and reporting, providing the opportunity to customize assays. Choose from nine different curve-fitting routines and use default data reduction, or set up custom formulas for analysis. Data can be analyzed and combined from different plates.

APPLICATIONS

- Live/Dead viability/cytotoxicity assays
- Detection of nucleic acids
- Green fluorescent protein
- NanoOrange protein quantitation
- PicoGreen DNA detection
- Molecular beacons
- Caspase-3
- Fluorometric protease assays
- cAMP detection

TECHNICAL SPECIFICATIONS

Fluorescence Photometric Performance

Dual monochromators: 1 nm increment selection
 EX wavelength: 250–850 nm
 EM wavelength: 360–850 nm
 Bandwidth (EX, EM): 9 nm
 Detection limit (signal 3X SD of baseline):
 3.0 fmol/well FITC 200 μ L in 96 wells

Time-Resolved Fluorescence (Secondary Mode)

Wavelength range: 360–850 nm
 Data collection: 50–1450 μ sec., 200 μ sec. increments
 Sensitivity: 0.5 fmol/well Eu-chelate (obtained with DELFIA reagent from Perkin Elmer by using a 384-well plate)

Luminescence (Secondary Mode)

Detection limit: 10 amol/well alkaline phosphatase 200 μ L/well (obtained with Emerald II reagent from Applied Biosystems)

General Photometric Performance

Plate formats: 6, 12, 24, 48, 96, 384 wells
 Light source: Xenon flash lamp (1 joule/flash)

Detector: Photomultiplier (R-3896)
 Read time*: 96 wells in < 15 seconds
 384 wells in < 45 seconds
 Shaker time: 0 to 999 seconds
 Temp. control: 4°C above ambient to 45°C

* Measurement type may extend read time.

General Specifications

Dimensions (in.): 8.6 (H) x 22.8 (W) x 15 (D)
 Dimensions (cm): 22 (H) x 58 (W) x 38 (D)
 Weight: 35 lbs. (15.9 kg)
 Power consumption: < 125 watts
 Power source: 100–240 Vac, 3 A, 50/60 Hz
 Robot compatible: Yes

ORDERING INFORMATION

Contact your Molecular Devices sales representative for configuration options.

SALES OFFICES

- USA & Canada +1-800-635-5577
- Brazil +55-11-3616-6607
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www.moleculardevices.com

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