



# SpectraMax Gemini XPS Microplate Reader

A dual-monochromator spectrofluorometer system

## BENEFITS

- **No filters needed**
- **Higher sensitivity**
- **Validation tools**
- **Robotics compatible**

## Introduction

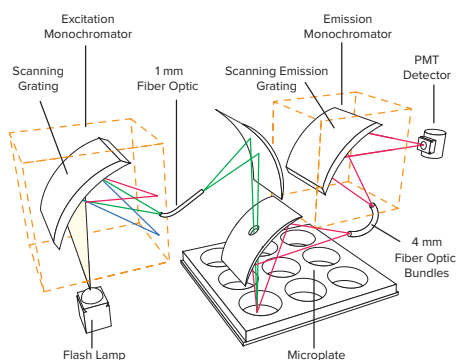
The SpectraMax® Gemini™ XPS Microplate Spectrofluorometer from Molecular Devices® provides a flexible environment to determine the optimal excitation and emission settings for most fluorescent intensity assays. The Gemini XPS Reader has dual monochromators that allow users to utilize new and novel dyes without purchasing expensive filter sets. SoftMax® Pro Microplate Data Acquisition and Analysis 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

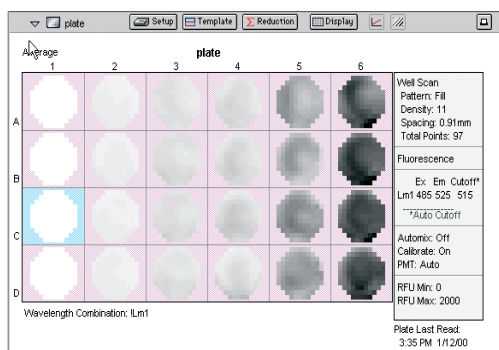
With well scanning, multiple points within each well can be read, providing a high level of sensitivity for cell-based assays. Endpoint, kinetic and spectrum scanning assays can also be run.



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



**Streamline GLP/GMP compliance.** The SpectraTest FL1 Validation Test Plate provides a complete solution for validating optical performance of the Gemini XPS reader.



**Gemini XPS Reader 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.

## 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.

## Leading data analysis software

SoftMax Pro Microplate Microplate Data Acquisition and 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

## Specifications

### Fluorescence photometric performance specifications

Dual monochromators	1 nm increment selection
EX wavelength range	250–850 nm
EM wavelength range	360–850 nm
Wavelength bandwidth (EX, EM)	9 nm
Detection limit (signal 3X SD of baseline)	3.0 fmol/well FITC 200 $\mu$ L in 96 wells

### Time-resolved fluorescence specifications (secondary mode)

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

### Luminescence specifications (secondary mode)

Detection limit	10 amol/well alkaline phosphatase 200 $\mu$ L/well (obtained with Emerald II reagent from Applied Biosystems)
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### General photometric performance specifications

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 < 15 sec., 384 wells < 45 sec.
Shaker time	0 to 999 seconds
Temperature range	Ambient +4°C to 45°C

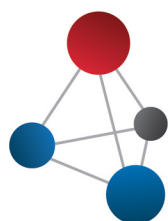
### General specifications

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

\* Measurement type may extend read time.

## Ordering information

Contact your Molecular Devices sales representative for configuration options.



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### **in Australia & New Zealand**

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