

# F3/F5 Multi-Mode Microplate Readers

Unmatched Value and Flexibility Across  
All Detection Modes



## F3/F5 Multi-Mode Microplate Readers

Functionality	F3 System	F5 System
Absorbance (ABS ) visible	✓	✓
Absorbance (ABS) UV		✓
Fluorescence intensity (FI) top read	✓	✓
Fluorescence intensity (FI) bottom read		✓
Luminescence (LUM) glow	✓	✓
Fluorescence polarization (FP)		✓
Time-resolved fluorescence (TRF)		✓
Shaking	✓	✓
Temperature control		✓
6- to 1536-well plates		✓
96- to 384-well plates	✓	✓

With up to five modes of detection, F3/F5 Multi-Mode Microplate Readers support a wide variety of applications in life science research. Users can also perform measurements such as endpoint, multiple wavelength, kinetic, linear and area scans.



### System packages

#### F3 Multi-Mode Microplate Reader

Includes Excitation Filter Slide #3 (Absorbance: 405 nm, 450 nm, 492 nm, 620 nm; Fluorescence: 360 nm, 485 nm), Emission Filter Slide #3 (Fluorescence: 465 nm, 535 nm), SoftMax® Pro Microplate Data Acquisition and Analysis Software, Power Cable, RS-232 Serial Cable, User Guides

#### F5 Multi-Mode Microplate Reader

Includes Excitation Filter Slide #1 (Fluorescence: 485 nm, 535 nm; TRF: 370 nm; FP: 485 nm), Emission Filter Slide #1 (Fluorescence: 535 nm, 595 nm, 625 nm; FP: 535 nm x 2), Excitation Filter Slide #2 (Absorbance: 260 nm, 340 nm, 405 nm, 450 nm, 595 nm, 620 nm), SoftMax Pro Microplate Data Acquisition and Analysis Software, Power Cable, RS-232 Serial Cable, User Guides

### F3/F5 Microplate Reader innovations

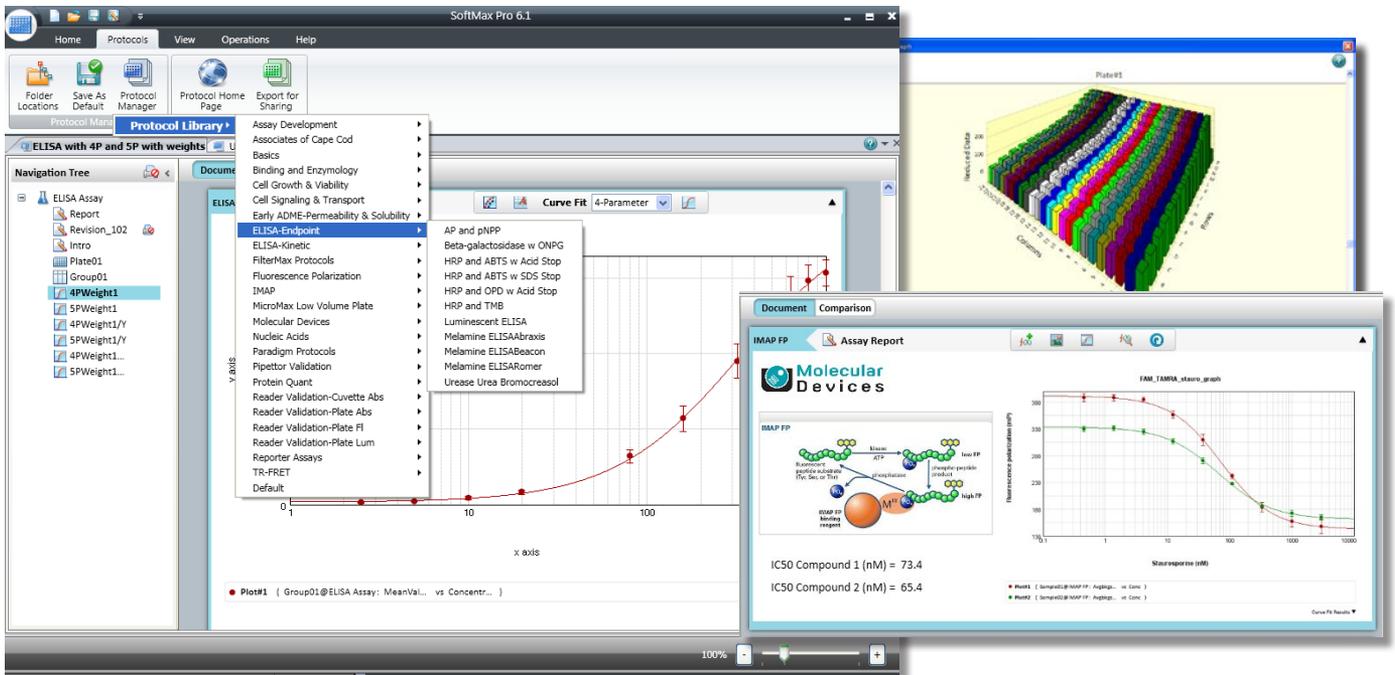
#### Light source: high-power LED

- The F-Series of microplate readers are the first microplate readers to employ patented high-power light emitting diodes (LED)
- Low cost of ownership with minimum maintenance
- High power at critical wavelength
- Optimized light source for a specific dye or application
- Deuterium lamp for UV excitation of dyes below 340 nm

#### Fluorescent: single photon counting

- Detector photomultiplier (PMT) operates in photon counting mode (affording increased sensitivity for red dyes)
- Linear dynamic range over 6 orders of magnitude
- Improved detection limit for time-resolved fluorescence (TRF)

Simple and customizable



## Simple setup

SoftMax Pro Microplate Data Acquisition and Analysis Software helps take advantage of an instrument's capabilities by providing:

- Automatic instrument recognition
- Over 140 pre-written protocols for popular assays
- A wide variety of scan types: Endpoint, Kinetic, Spectral Scanning, and Well Scanning
- Standard data reduction settings are pre-selected as default
- Automatic data recovery feature

## Tailored data analysis

No need to waste time exporting data to external applications for analysis. In addition to the more than 140 predefined experiment protocols, use the straightforward yet powerful programming capabilities of SoftMax Pro 6 Software to quickly analyze data.

- Perform multiple calculations on one data set with the Plate Cloning option
- Analyze data in a single plate, across multiple plates, or between different groups
- Use comparison view to look at multiple sections of your experiment side-by-side
- Zoom into desired wells, then adjust reduction parameters while collecting real-time data for kinetic and spectral scans
- Report data using conditional formulas and apply variable weighting
- Create results summary reports with live mini-graphs and tables

## Flexible calculations and formulas

Use the extensive set of predefined Reductions, Columns, and Summary formulas, or create custom calculations with ease thanks to our Syntax Helper.

- Perform extensive mathematical calculations within and across multiple columns of data
- Apply a single standard set across multiple plates to perform cross-plate analysis and interpolation
- Easily analyze common calculations like  $EC_{50}$  and Z-factors to identify potency and assay quality
- View side-by-side graphs and tables from different sections of your experiment
- Clone your plate data for multiple data reduction options
- Graph your results with over 18 curve fit options

# Specifications

	F3 System	F5 System
<b>General</b>		
Light Source	High-Power LEDs	High-Power LEDs + Deuterium Lamp
Detectors	Silicon Photodiode + PMT	Silicon Photodiode + PMT
Filters	1 EX + 1 EM Filter Slides (6 filter capacity)	2 EX + 1 EM Filter Slides (6 filter capacity)
Plate Formats	96- to 384-well	6- to 1536-well
Shaking	Linear + Orbital (3 speeds)	Linear + Orbital (3 speeds)
Temperature Control	–	Ambient +4°C to 45°C
Power/Voltage	100-240 VAC; 50/60 Hz	100-240 VAC; 50/60 Hz
Dimensions (W x H x L)	39 cm x 24 cm x 58 cm	39 cm x 24 cm x 58 cm
Weight	25 kg	25 kg
<b>Absorbance (ABS)</b>		
Wavelength Range	340-650 nm	230-650 nm
Indication Range	0-3.5 OD	0-3.5 OD
Accuracy	< ± 1 % and ± 10 m OD at 2 OD at 405 nm	< ± 1 % and ± 10 m OD at 2 OD at 405 nm
Reproducibility	< ± 0.5 % and ± 0.005 OD at 2 OD at VIS**	< ± 0.5 % and ± 0.005 OD at 2 OD at VIS** ± 0.5 % and ± 0.005 OD at 1 OD at UV**
** at the supplied wavelengths: VIS > 399 nm, UV < 400 nm		
<b>Fluorescence Intensity (FI) top read</b>		
Wavelength Range	340-650 nm	230-750 nm
Detection Limit – 96-well plate	3 fmol fluorescein	0.5 fmol fluorescein
Detection Limit – 384-well plate	3 fmol fluorescein	0.4 fmol fluorescein
Linear Dynamic Range	6 decades	6 decades
<b>Fluorescence Intensity (FI) bottom read</b>		
Wavelength Range	–	300-650 nm
Detection Limit – 96-well plate	–	25 fmol fluorescein
Detection Limit – 384-well plate	–	15 fmol fluorescein
<b>Luminescence (LUM) glow</b>		
Wavelength Range	400-650 nm	400-750 nm
Detection Limit – 96-well plate	2 fmol ATP	2 fmol ATP
Linear Dynamic Range	6 decades	6 decades
<b>Fluorescence Polarization (FP)</b>		
Wavelength Range	–	300-750 nm
Detection Limit – 96-well plate	–	3 mP at 10 nM fluorescein
Detection Limit – 384-well plate	–	4 mP at 10 nM fluorescein
<b>Time-Resolved Fluorescence (TRF)</b>		
Wavelength Range	–	340-750 nm
Detection Limit – 96-well plate	–	30 amol Europium
Detection Limit – 384-well plate	–	15 amol Europium

## Ordering information

### Part No. Description

F3	F3 Multi-Mode Microplate Reader with current SoftMax Pro Software
F5	F5 Multi-Mode Microplate Reader with current SoftMax Pro Software

### Contact Us

Phone: +1-800-635-5577  
 Web: www.moleculardevices.com  
 Email: info@moldev.com

Check our website for a current listing of worldwide distributors.

### Regional Offices

USA and Canada +1-800-635-5577  
 Brazil +55-11-3616-6607  
 China (Beijing) +86-10-6410-8669  
 China (Shanghai) +86-21-3372-1088  
 Germany 00800-665-32860

Japan (Osaka) +81-6-7174-8831  
 Japan (Tokyo) +81-3-6362-5260  
 South Korea +82-2-3471-9531  
 United Kingdom +44-118-944-8000

