D E T E C T I O N

Synergy™ H1 Hybrid Multi-Mode Microplate Reader

Synergy H1 is a flexible monochromator-based multi-mode microplate reader that can be turned into a high-performance hybrid system with the addition of a filter-based optical module. The monochromator optics uses a third generation quadruple grating design that allows working at any excitation or emission wavelength with a 1 nm step. This system supports top and bottom fluorescence intensity, UV-visible absorbance and high performance luminescence detection. It is the ideal system for all the standard microplate applications found in life science research laboratories. The filter module is a completely independent add-on that includes its own light source, and a high performance dichroic-based wavelength selection system. With its very high optical efficiency, this module supports advanced detection modes such as Fluorescence Polarization, Time-Resolved Fluorescence and filtered luminescence (e.g. BRET). A dual reagent injection system is available to automate inject/read assays such as ion channels assays or flash luminescence assays (e.g. luciferase or ATP assays).

Compatible with Take3™ Multi-Volume Plate with sixteen 2 µL microspots for low-volume assays.

Features:

- Patent-Pending Hybrid Technology combines flexible monochromator detection with high performance dichroic-based filter detection
- Compatible with Take3™ Multi-Volume Plate: Samples down to 2 µL volume can be measured. Especially useful when working with precious samples, for fast and accurate DNA/RNA quantification at 260 nm
- Quadruple grating monochromator for maximum flexibility and ease of use
- Dichroic-based filter optics, for best performance and advanced detection technologies such as fluorescence polarization and time-resolved fluorescence
- Comes with Gen5™ Data Analysis Software: reader control, advanced data analysis and flexible Excel export in one software package

BioTek®
Get a Better Reaction.

Quadruple grating monochromator system: Ease of use and flexibility.

Easy-to-use filter system with magnetic filter cubes that can be swapped in a matter of seconds.

Models:

- Synergy H1m: Monochromator-based
- Synergy H1f: Filter-based
- Synergy H1mf: Hybrid

Dual reagent dispenser option available with all models.

Accessories:

- Take3™ Multi-Volume Plate
- BioStack™: 30 or 50 plate stacker
- Gen5™ Secure for 21CFR part 11 compliance
- Product Qualification Package
- Fluorescence, Luminescence and Absorbance Test Plates

Specifications:

Fluorescence Intensity

Light Source:	Xenon Flash Lamp
Wavelength Range:	Monochromators: 250-700 nm (900 nm option) Filters: 200-700 nm (900 nm option)
Wavelength Selection:	Double grating monochromators (Top/Bottom) and deep blocking bandpass filters / dichroic mirrors (Top)
Sensitivity Top:	Monochromators: fluorescein 2.5 pM typical (0.25 fmol/well 384-well plate) Filters/mirrors: fluorescein 1 pM typical (0.1 fmol/well 384-well plate)

Luminescence

Wavelength Range:	300-700 nm
Dynamic Range:	> 6 Decades
Sensitivity (ATP):	Monochromator system: 20 amol ATP typical (flash) Filter system: 10 amol ATP typical (flash)

Absorbance

Light Source:	Xenon Flash Lamp
Wavelength Range:	230-999 nm, 1 nm increment
Wavelength Selection:	Monochromator
Bandwidth:	4 nm (230-285 m), 8 nm (>285 m)
Measurement Range:	0 to 4.0 OD
OD Accuracy:	< 1 % at 2 OD typical
OD Precision:	< 0.5 % at 2 OD typical

Fluorescence Polarization

Wavelength Range:	300-700 nm (900 nm option)
Wavelength Selection:	Deep blocking bandpass filters/dichroic mirrors (top)
Sensitivity Top:	5 mP at 1 nM fluorescein typical

Time Resolved Fluorescence

Light Source:	Xenon Flash Lamp
Wavelength Range:	200-700 nm (900 nm option)
Wavelength Selection:	Deep blocking bandpass filters/dichroic mirrors
Sensitivity Top:	Europium 100 fM typical (10 amol/well in 384-well plate)

Dispensers

Number of Injectors:	2 syringe pumps
Dispense Volume:	5 - 1000 µL in 1 µL increment
Dead Volume:	1 mL, 100 µL with backflush

Speed (Minimum Kinetic Interval)

96-well:	11 seconds
384-well:	22 seconds

General

Microplate Types:	1- to 384-well plates Compatible with Take3™ Multi-Volume Plate with 2 µL microspots
Shaking:	Yes
Dimensions:	15.4"W x 18.6"D x 12.9"H (39.1 x 47.2 x 32.8 cm)
Weight:	50 lbs (22.5 kg)
Temperature Control:	RT to 45°C
Top Optics Adjustment:	Automated
BioStack Compatible (Automation-Ready):	Yes
Software:	Gen5™ Data Analysis Software

*Specifications subject to change

BioTek®

Fisher Scientific
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For customer service, call 1-800-766-7000.
To fax an order, use 1-800-926-1166.
To order online: www.fishersci.com