

# Synergy™ HTX Multi-Mode Reader

With UV-Vis absorbance and filter-based fluorescence and luminescence, Synergy™ HTX Multi-Mode Reader combines versatility and performance for many key end point and kinetic applications. The compact system has a unique dual-optics design: a xenon flash lamp and monochromator enable filter-free, 200-999 nm wavelength selection for absorbance measurements, and a tungsten halogen lamp plus interference filters provide excellent sensitivity for fluorescence detection.

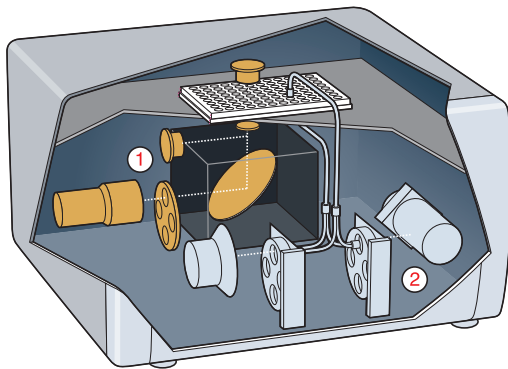
Synergy HTX also features BioTek's unique 4-Zone™ incubation to 50 °C, dual reagent injectors, plus linear and orbital shaking to meet a wide variety of assay requirements in 6- to 384-well microplates. Synergy HTX is controlled by the easy-to-use, yet powerful, Gen5™ software for data collection, analysis, exporting and reporting. For increased workflow automation and throughput, BioTek's BioStack can be easily connected to Synergy HTX to automatically process up to 50 microplates at a time. For convenience, versatility and affordability, Synergy HTX is the ideal multi-mode microplate reader.



## Features:

- Monochromator-based UV-Vis absorbance and filter-based fluorescence detection for flexibility and performance
- 2 µL low volume nucleic acid quantification with Take3 and Take3 Trio plates
- Cell friendly orbital shaking and advanced incubator design to 50 °C with Condensation Control™ to minimize plate lid condensation
- Dual reagent injectors for inject/read applications, such as enzyme kinetics and Dual-Luciferase® Reporter assays
- Alpha assay capable
- Modular and upgradable
- Powerful Gen5 Microplate Reader and Imager Software for reader control and all data reduction needs
- Compatible with BioStack and 3<sup>rd</sup> party automation

## Dual Optics Design:



Synergy™ HTX offers monochromator-based UV-Vis absorbance (1) and filter-based fluorescence (2).

## Typical Applications:

- Nucleic acid quantification
- Protein quantification
- Enzyme kinetics
- Biomarker quantification
- ELISAs
- Genetic analysis
- Cell proliferation
- Cytotoxicity
- Drug absorption and metabolism
- Food safety
- Environmental monitoring

## Configurations:

- S1L Synergy HTX with luminescence
- S1A Synergy HTX with UV-Vis absorbance
- S1LA Synergy HTX with UV-Vis absorbance and luminescence
- S1LF Synergy HTX with luminescence and top/bottom fluorescence
- S1LFA Synergy HTX with luminescence, top/bottom fluorescence and UV-Vis absorbance
- S1LFTA Synergy HTX with luminescence, top/bottom fluorescence, time-resolved fluorescence and UV-Vis absorbance

See Web Site for complete list of configurations and descriptions.

## Optional Accessories:

- Dual Reagent Injector Module
- Gen5™ Secure (for 21 CFR Part 11 Compliance)
- Fluorescence Test Plate
- Absorbance Test Plate
- Luminescence Test Plate
- Product Qualification Package
- Take3/Take3 Trio



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## Technical Details:

### General

Detection modes:	Fluorescence, time-resolved fluorescence (secondary mode), luminescence, UV-Visible absorbance, Alpha
Read methods:	End point, kinetic, spectral scanning, well-area scanning
Microplate types:	6- to 384-well plates
Other labware supported:	PCR plates, Petri and cell culture dishes, Take3 Micro-Volume Plates
Temperature control:	4-Zone™ incubation to 50 °C; ±0.2 °C at 37 °C
Shaking:	Linear, orbital
Software:	Gen5™ Microplate Reader and Imager Software
Automation:	Compatible with BioStack™ and 3rd party automation

### Absorbance

Light source:	Xenon flash lamp
Detector:	Photodiode
Wavelength selection:	Monochromator
Wavelength range:	200 – 999 nm, 1 nm increments
Monochromator bandwidth:	2.4 nm
Dynamic range:	0 – 4.0 OD
Resolution:	0.0001 OD
Pathlength correction:	Yes
Monochromator wavelength accuracy:	±2 nm
Monochromator wavelength repeatability:	±0.2 nm
OD linearity:	<1% from 0 to 3.0 OD
OD repeatability:	<0.5% at 2.0 OD

### Fluorescence Intensity

Sensitivity:	Top and Bottom: Fluorescein 5 pM (1 fmol/well, 96-well plate)
Light source:	Tungsten halogen Xenon flash (option)
Wavelength selection:	Filters
Wavelength range:	300 – 700 nm (200 – 850 nm option)
Dynamic range:	>6 decades
Detector:	PMT

### Luminescence

Sensitivity:	10 amol ATP (flash) – Lum. and Abs./Lum. configurations 30 amol ATP (flash) – Multi-mode configurations
Wavelength range:	300 – 700 nm
Dynamic range:	>6 decades
Detection system:	Low noise PMT

### Time-Resolved Fluorescence

Light source:	Xenon flash
Wavelength selection:	Monochromator

### Alpha Detection

Light source:	Tungsten halogen
Sensitivity:	300 amol of biotinylated LCK-P peptide
Read speed:	2 minutes (96-well plate)

### Reagent Injectors

Number:	2 syringe pumps
Dispense volume:	5 – 1000 µL in 1 µL increments
Minimum prime volume:	1.1 mL, 100 µL with back flush

### Physical Characteristics

Connectivity:	1 USB, 1 RS232 for external PC control
Power:	100 – 240 Volts AC. 50/60 Hz
Dimensions:	16" W x 15" D x 10" H (40.6 x 38 x 25.4 cm)
Weight:	40 lbs (18 kg)

### Regulatory

CE and TUV marked, RoHS compliant. Configurations for *In Vitro* Diagnostic use are available.

Technical details are subject to change.