D E T E C T I O N

Synergy™ Neo2 Multi-Mode Reader

Synergy™ Neo2 Multi-Mode Microplate Reader is designed for speed and superior performance, incorporating BioTek's patented Hybrid Technology™. Independent optical paths optimize diverse assay requirements with continuously variable bandwidth quadruple monochromators, sensitive filter-based optics, laser-based excitation for Alpha assays and up to 4 PMTs for ultra-fast measurements. Advanced environment controls, including CO_2/O_2 control, incubation to 65 °C and variable shaking are ideal for live cell assays, and direct bottom illumination optimizes cell-based detection.

Synergy Neo2 features a modular design – build the precise configuration to meet your requirements and budget and upgrade when necessary. Barcode-labeled filter cubes help streamline workflows and limit errors. The available plate stacker is the fastest on the market – ideal for high throughput requirements. Powerful Gen5™ Software is included, and features for 21 CFR Part 11 compliance are available in Gen5 Secure.

PATENTED HYBRID OPTICS

Speed, superior performance and the best specifications make Synergy Neo2 the standard in multi-mode readers.

Features:

- Patented Hybrid Technology™ with independent filter and monochromator-based optics
- Scientific quad monochromators with continuously variable bandwidth for optimal sensitivity and flexibility
- High performance filter system
- Ultra-fast plate processing speeds with multiple PMT detectors
- Live-cell options: atmospheric control and direct bottom detection
- Driven by best-in-class Gen5™ Microplate Reader and Imager Software for data collection and analysis
- 21 CFR Part 11 Compliance with available Gen5 Secure Software
- BioSpa™ 8 Automated Incubator compatible for live and fixed cell assay automation
- Configurable, upgradable design

Scan with your smart phone to watch the video.

BioTek®

Configurations:

NEO2	Dual top PMT, top filter fluorescence, fluorescence polarization, time-resolved fluorescence, TR-FRET, luminescence, filter luminescence, monochromator UV-Vis absorbance

Modules:

ALPHA	Adds laser-based Alpha module
B	Adds bottom filter fluorescence module
M	Adds top and bottom monochromator fluorescence

Available Configurations:

- NEO2
- NEO2ALPHA
- NEO2B
- NEO2M
- NEO2ALPHAB
- NEO2MALPHA
- NEO2MB
- NEO2MALPHAB

Other configurations available. Please inquire.

Optional Accessories:

- CO_2/O_2 Gas Controller Module
- BioStack™ Microplate Stacker
- BioSpa™ 8 Automated Incubator
- Dual Reagent Injector Module
- Take3™ Micro-Volume Plate
- Gen5™ Secure for 21 CFR Part 11 Compliance
- Fluorescence, Luminescence, and Absorbance Test Plates

Specifications:

General

Detection mode:	Quad monochromators: FL, Lum., UV-Vis Abs., TRF (secondary) Filters: FL, TRF, FP, Lum., Alpha, TR-FRET, BRET
Read mode:	End point, kinetic, spectral scanning, well area scanning
Microplate types:	1- to 1536-well plates
Other labware:	Compatible with Take3™ Micro-Volume Plates with 2 µL microspots
Temperature control:	To 65 °C with Condensation Control™ Variation ±0.2 °C at 37 °C
Shaking:	Linear, orbital, double orbital
Software:	Gen5™ Microplate Reader and Imager Software included Gen5 Secure Software option for 21 CFR Part 11 compliance features
Automation:	BioStack and 3rd party automation compatible BioSpa™ 8 Automated Incubator compatible
CO_2 and O_2 control:	0 – 20% CO_2 control and 1 – 19% O_2 control, with optional Gas Controller
Barcode reader:	Multi-directional, 1D and 2D camera-based
Read height:	Auto Z, 0.1 mm steps, top/bottom (Filters), top (Mono)
Kinetic speed:	96-well: 6 seconds; 384-well: 11 seconds; 1536-well: 25 seconds
With Neo Stacker, minimum processing time per plate:	96-well: 20 seconds; 384-well: 25 seconds 1536-well: 39 seconds

Absorbance

Light source:	Xenon flash lamp
Wavelength selection:	Monochromator
Wavelength range:	230 – 999 nm, 1 nm increment
Bandwidth:	2 nm (230 – 285 nm), 4 nm (>285 nm)
Dynamic range:	0 – 4.0 OD
Resolution:	0.0001 OD

Fluorescence Intensity

Sensitivity:	Filter Cubes: Fluorescein 0.2 pM (384-well low volume plate) – Top Fluorescein 1 pM (1536-well plate) – Top Fluorescein 1 pM (384-well plate) – Bottom Quadruple Monochromator: Fluorescein 2 pM (384-well low volume plate) – Top Fluorescein 2.5 pM (384-well plate) – Bottom
Light source:	High energy xenon flash lamp
Read height:	Auto Z, 0.1 mm steps, top/bottom (Filters), top (Mono)
Wavelength selection:	Double grating monochromators (top/bottom) Filters (top/bottom)
Wavelength range:	Monochromators: 250 – 850 nm Filters Cubes: 200 – 850 nm
Monochromator bandwidth:	Variable, from 3 nm to 50 nm in 1 nm increment excitation/emission
Detection system:	Single PMT or dual PMTs (top filter system) Low Noise PMT bottom filter system Red shifted PMT top/bottom monochromator system

Luminescence

Sensitivity:	5 amol ATP (flash) (384-well low volume plate)
Wavelength range:	300 – 700 nm
Dynamic range:	>6 decades

Fluorescence Polarization

Sensitivity:	1 mP standard deviation at 1 nM fluorescein (384-well low volume plate) 1.5 mP standard deviation at 1 nM fluorescein (1536-well plate)
Light source:	Xenon flash lamp
Wavelength selection:	Filter cubes (top/bottom)
Wavelength range:	280 – 850 nm
Detection system:	Single PMT or dual PMTs

Time-Resolved Fluorescence

Light source:	Xenon flash lamp
Sensitivity:	Europium 40 fM (384-well low volume plate) Europium 70 fM (1536-well plate)
Wavelength selection:	Filter Cubes (top/bottom) Double grating monochromator (top/bottom)
Wavelength range:	Monochromators: 250 – 850 nm Filters: 200 – 850 nm
Detection system:	Single PMT or dual PMTs

Alpha

Sensitivity:	100 amol LCK peptide (384-well low volume plate)
Light source:	100 mW 680 nm laser
Wavelength selection:	Filter cubes
Read speed:	96-well: 30 seconds 384-well: 1 minute 50 seconds 1536-well: 7 minutes 20 seconds

Reagent Dispensers

Number:	2 syringe pumps
Dispense volume:	5 – 1000 µL, in 1 µL increment
Dead volume:	1.1 ml, with back flush
Plate geometry:	6- to 384-well microplates, Petri dishes
Dispense precision:	≤2% at 50 – 200 µL
Dispense accuracy:	±1 µL or 2%

Physical Characteristics

Power:	250 Watts max.
Dimensions:	16.1 x 15.4 x 20.7 in. (41 x 39 x 52.5 cm) – H x W x D
Weight:	78 lbs (35 kg)

Regulatory

CE and TUV marked, RoHS compliant. In Vitro Diagnostic use models are available.

Performance specification values represent the average observed factory test values.

Hybrid Technology™ is protected under US patent 8,218,141.

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