Data Sheet

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Agilent BioTek Synergy Neo2 Hybrid Multimode Reader

Technical details

General	
Detection Modes	UV-Vis absorbance Fluorescence intensity Luminescence Fluorescence polarization Time-resolved fluorescence Alpha
Read Methods	End point, kinetic, spectral scanning, well-area scanning
Microplate Types	6- to 1536-well plates
Other Labware Supported	Petri and cell culture dishes Agilent BioTek Take3 microvolume plates
Temperature Control	4-Zone Incubation to 70 °C with Condensation Control ± 0.2 °C at 37 °C
Shaking	Linear, orbital, double orbital
Software	Agilent BioTek Gen5 data analysis software Agilent BioTek Gen5 Secure software enables 21 CFR Part 11 compliance (option)
Automation	Agilent BioTek BioStack microplate stacker and third-party automation compatible Agilent BioTek BioSpa 8 automated incubator compatible Agilent BenchCel microplate handler compatible
CO_2 and O_2 Control (Option)	Range: 0–20% (CO_2); 1–19% (O_2) Control resolution: ± 0.1% (CO_2 and O_2) Stability: ± 0.2% at 5% CO_2; ± 0.2% at 1% O_2 Models for CO_2 /O_2, or CO_2 only, are available
Barcode Reader	1D and 2D camera-based scanner
Absorbance	
Light Source	Xenon flash
Detector	Photodiode
Wavelength Selection	Monochromator
Wavelength Range	230–999 nm, 1 nm increments
Monochromator Bandwidth	Bandwidth: < 3 nm (230–285 nm), < 6 nm (> 285 nm)
Dynamic Range	0–4.0 OD
Resolution	0.0001 OD
Path Length Correction	Yes
Monochromator Wavelength Accuracy	± 2 nm
Monochromator Wavelength Repeatability	± 0.2 nm
OD Accuracy	< 1% at 2.0 OD < 3% at 3.0 OD

OD Linearity	< 1% from 0–3.0 OD
OD Repeatability	< 0.5% at 2.0 OD
Stray Light	0.03% at 230 nm
Reading Speed (Kinetic)	96 wells: 6 s
Fluorescence Intensity	
Light Source	Xenon flash
Detector	PMT
Wavelength Selection	Quad monochromators (top/bottom) Filters (top/bottom)
Wavelength Range	Monochromators: 250–700 nm (850 nm option) Filters: 200–700 nm (850 nm option)
Monochromator Bandwidth	Variable, from 3 to 50 nm in 1 nm increments
Dynamic Range	7 decades
Sensitivity	Filters: Fluorescein 0.2 pM (4 amol/well, 20 µL, 384-well low-volume plate)—top Fluorescein 1 pM (10 amol/well, 10 µL, 1536-well plate)—top Fluorescein 1 pM (0.1 fmol/well, 100 µL, 384-well plate)—bottom Quad monochromator: Fluorescein 2 pM (40 amol/well, 20 µL, 384-well low-volume plate)—top Fluorescein 2.5 pM (0.25 fmol/well, 100 µL, 384-well plate)—bottom
Reading Speed (Kinetic)	96 wells: 6 s 384 wells: 11 s 1536 wells: 25 s
Luminescence	
Wavelength Range	300–700 nm
Dynamic Range	> 6 decades
Sensitivity	5 amol ATP typical (384-well low-volume plate)
Fluorescence Polarization	
Light Source	Xenon flash
Detector	PMT
Wavelength Selection	Filters
Wavelength Range	280–700 nm (850 nm option)
Sensitivity	1 mP standard deviation at 1 nM fluorescein
Time-Resolved Fluorescence	
Light Source	Xenon flash or TRF laser (option)
Detector	Dual PMT or single PMT (option)
Wavelength Selection	Filters (top/bottom)
Sensitivity	With TRF laser: 5 fM (384-well low-volume plate) With Xenon flash lamp: 40 fM (384-well low-volume plate)
Alpha Detection	
Light Source	100 mW 680 nm laser
Detector	PMT
Wavelength Selection	Filters (top)
Sensitivity	100 amol LCK peptide (384-well low-volume plate)
Read Speed	96 wells: 30 s 384 wells: 1 min 50 s 1536 wells: 7 min 20 s

Reagent Dispensers	
Supported Detection Modes	All modes
Number	2 syringe pumps
Supported Labware	6- to 384-well plates, Petri dishes
Dead Volume	1.1 mL, with backflush
Dispense Volume	5–1,000 µL in 1 µL increments
Dispense Accuracy	± 1 µL or 2%
Dispense Precision	≤ 2% at 50–200 µL
Physical Characteristics	
Power	250 W maximum consumption
Dimensions	Without TRF laser: 38.1 cm W x 52.5 cm D x 41.2 cm H (15" W x 20.7" D x 16.25" H) With TRF laser: 38.1 cm W x 62.2 cm D x 41.2 cm H (15" W x 24.5" D x 16.25" H)
Weight	Without TRF laser: 35.4 kg (78 lb) With TRF laser: 45.3 kg (100 lb)

Configurations

	Monochromator		Filter				
Part Number	**ABS**	**FI AND LUM**	**Dual Filter Top FI/FP/TRF and LUM**	**Single Filter Top FI/FP/TRF and LUM**	**Filter Bottom FI/FP/TRF**	**Alpha Laser**	**TRF Laser**
N2M	•	•	•				
N2MA	•	•	•			•	
N2MAB	•	•	•		•	•	
N2MB	•	•	•		•		
N2SM	•	•		•			
N2SMA	•	•		•		•	
N2SMAB	•	•		•	•	•	
N2SMB	•	•		•	•		
N2	•		•				
N2S	•			•			
N2SA	•			•		•	
N2MT	•	•	•				•
N2MAT	•	•	•			•	•
N2MABT	•	•	•		•	•	•
N2AT	•		•			•	•
N2ABT	•		•		•	•	•
N2MBT	•	•	•		•		•
N2T	•		•				•
N2MON	•	•					

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