

Synergy H1

Hybrid Multi-Mode Reader

SPECIFICATIONS

GENERAL

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| Detection modes | UV-Vis absorbance Fluorescence intensity Luminescence Fluorescence polarization Time-resolved fluorescence |
| Read methods | Endpoint, kinetic, spectral scanning, well area scanning |
| Microplate types | 6- to 384-well plates |
| Other labware supported | Petri and cell culture dishes Take3 Micro-Volume Plates |
| Temperature control | 4-Zone™ incubation to 45 °C with Condensation Control™ ±0.2 °C at 37 °C |

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| Shaking | Linear, orbital, double orbital |
| Software | Gen5™ Data Analysis Software Gen5 Secure for 21 CFR Part 11 compliance (option) |
| Automation | BioStack and 3rd party automation compatible BioSpa 8 Automated Incubator 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 both CO ₂ and O ₂ or CO ₂ only are available |

ABSORBANCE

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|-------------------------|-----------------------------------|
| Light source | Xenon flash |
| Detector | photodiode |
| Wavelength selection | monochromator |
| Wavelength range | 230 - 999 nm, 1 nm increments |
| Monochromator bandwidth | 4 nm (230-285 nm), 8 nm (>285 nm) |
| Dynamic range | 0 - 4.0 OD |
| Resolution | 0.0001 OD |

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| Pathlength 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 to 3.0 OD |
| OD repeatability | <0.5% at 2.0 OD |
| Stray light | 0.03% at 230 nm |
| Reading speed (kinetic) | 96 wells: 11 seconds 384 wells: 22 seconds |

FLUORESCENCE INTENSITY

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| Light source | Xenon flash |
| Detector | PMT for monochromator system PMT for filter system |
| Wavelength selection | Quad monochromators (top/bottom) Filters (top) |

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| Wavelength range | Monochromators: 250 - 700 nm (850 nm option) Filters: 200 - 700 nm (850 nm option) |
| Monochromator bandwidth | Fixed, 16 nm |
| Dynamic range | 7 decades |
| Sensitivity | Filters: Fluorescein 0.25 pM (0.025 fmol/well, 384-well plate) Quad Monochromator: Fluorescein 2.5 pM (0.25 fmol/well, 384-well plate) - top Fluorescein 4 pM (0.4 fmol/well, 384-well plate) - bottom |
| Reading speed (kinetic) | 96 wells: 11 seconds 384 wells: 22 seconds |

LUMINESCENCE

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| Wavelength range | 300 - 700 nm |
| Dynamic range | >6 decades |
| Sensitivity | Monos: 20 amol ATP (flash) Filters: 10 amol ATP (flash), 100 amol (glow) |

FLUORESCENCE POLARIZATION

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| Light source | Xenon flash |
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| Detector | PMT |
| Wavelength selection | Filters |
| Wavelength range | 280 - 700 nm (850 nm option) |
| Sensitivity | 1.2 mP standard deviation at 1 nm fluorescein |

TIME-RESOLVED FLUORESCENCE

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| Light source | Xenon flash |
| Detector | PMT |
| Wavelength selection | Quad monochromators (secondary mode) Filters (top) |
| Wavelength range | Filters: 200 - 700 nm (850 nm option) |
| Sensitivity | Filters: Europium 40 fM (4 amol/well, 384-well plate) Monos: Europium 1200 fM (120 amol/well, 384-well plate) |

REAGENT DISPENSERS

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| Supported detection modes | All modes |
| Number | 2 syringe pumps |

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| Supported labware | 6- to 384-well microplates, Petri dishes |
| Dead volume | 1.1 mL with back flush |
| Dispense volume | 5 - 1000 μ L in 1 μ L increment |
| Dispense accuracy | \pm 1 μ L or 2% |
| Dispense precision | <2% at 50-200 μ L |

PHYSICAL CHARACTERISTICS

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| Power | 130 Watts max. |
| Dimensions | 15.4"W 18.6"D 12.9"H (39.1 x 47.2 x 32.8 cm) |
| Weight | 50 lbs (22.5 kg) |

REGULATORY

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| Regulatory | CE and TUV marked. RoHS Compliant. Models for In Vitro Diagnostic use are available. |
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Specifications are subject to change. Performance values represent the average observed factory test values.

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