

MULTI MODE READER

Proposed Application: To monitor, quantify and characterize enzyme activity etc. using absorbance, fluorescence and luminescence measurements.

Features:

1. Provision to monitor the assay in a 6 to 384 well plates and cuvettes.
2. Detection modes should include UV-VIS absorbance, Fluorescence intensity; Time resolved fluorescence and luminescence measurements.
3. Provision for shaking and temperature control of sample compartment
4. Software package for instrument control and data analysis.
5. Provision to read top or bottom of micro plate in fluorescence studies.
6. Automatic path check correction when using multi well plates.
7. Provision for kinetic, end point and spectral scanning in all modes.

Specifications:

General:

Reading capabilities	: 6-384 well plates
Light Sources	: Xenon Flash Lamp
Detector	: PMT/ Photodiode
Wave length selection	: Monochromator
Temperature range	: Ambient to 60°C
Temperature accuracy	: $\pm 1.0^\circ\text{C}$
Operating Voltage	: 230 \pm 10 VAC /50Hz

Fluorescence:

Wave length range	: 200-950 nm in 0.1nm step
Reading capabilities	: Top or bottom of wells in Micro plate
Wave length selection	: Monochromators (Excitation & Emission)
Sensitivity	: Flourescein 2 pM typical (1 fmol/well in 96-well plate; 0.5 fmol/well in 384-well plate)

Time Resolved Fluorescence:

Wavelength range	: 250-850nm
Reading capabilities	: Top or bottom of a micro plate
Wave length selection	: Monochromators (Excitation & Emission)
Sensitivity	: $\leq 100\text{fM}$ Europium in 96/384 wells.

Luminescence:

Reading capability	: Top or bottom of wells in a Micro plate
Wave length range	: 250-850nm
Dynamic range	: > 6
Sensitivity	: 10 amol ATP/well

Absorbance:

Reading Capability	: Micro plate
Plate reading time	: < 20 sec for 96 well plates & < 50 sec for 384 well plates
Wavelength range	: 200-1000 nm
Bandwidth	: 3 nm

Wave length selection : Monochromator
Wave length accuracy : $\leq \pm 1.0$ nm
Wave length repeatability: ± 0.2 nm
Photometric range : 0 - 4.0 OD
Stray light : < 0.05 %

Microplate Read Time:

Endpoint Read Time: 96 well in < 20 sec 384 wells in < 50 Sec
Kinetic Read Interval: 6 sec minimum between readings

Dispenser:

Plate type : 6 -384 wells plate
Syringe size : 1ml
Dispensing volume : Compatible Volume
Accuracy : 2%

Incubator : From ambient $+4^{\circ}\text{C}$ to 45°C

Shaker : Orbital with adjustable speed and diameter
: Speed 100 and 300 RPM
: Shaker time – 0 to 999 sec

Operating Voltage : 230 ± 10 VAC, 50 Hz

Essential Accessories:

1. Standard cuvettes for **absorbance** and **fluorescence** } Macro/Micro–6 Nos. each
2. PC of reputed brand with latest configuration and suitable operating system, Laser Printer
3. Standard plates for calibration of absorbance, Fluorescence and luminescence.
4. UPS of reputed brand and suitable capacity with a backup for one hour at maximum load to be indicated and quoted along with all specifications and features.

Other Requirements

- 3 years comprehensive warranty + 2 more years free AMC
- Validation of the instrument is to be done every six months during the period of warranty.
- Availability of local Service Support and response time for a Service Call during and after warranty to be mentioned.
- Additional features/accessories if any that can potentially increase the productivity of this instrument should be quoted as optional items.