

# Multidetetection Microplate Reader MR-942



## The Even-More-Value-for-Money Multimode Reader

With the multi-technology microplate reader platform has developed into its second generation setting new standards in modularity, performance and user-friendliness.

- Luminescence
- BRET and BRET<sup>2</sup>
- Fluorescence
- FRET
- Absorbance

The has been developed to support a fully modular approach. Any combination of reading technologies and options can be composed maintaining all possibilities of later upgrades.

## Built-in Reagent Injectors

Up to 3 reagent injectors can be set up to dispense multiple activators or detection reagents at any time and with user-adjustable volumes during the measurement. Berthold Technologies' injectors are based on the proprietary JET Injection technology. Superior accuracy and precision is combined with excellent mixing performance. Variable injections speeds and "friendly" material enable even injection of live cells (e.g. in Aequorin based GPCR screening).

One of the injector tips is located in reading position enabling the measurement of very fast labels, e.g. Acridinium esters, and to inject activators into a running kinetic. The ergonomic design of the housing provides front access of the injectors keeping the reagent reservoirs within reach and within eyesight. A through allows keeping the reagent bottles on ice or elevated temperatures – just as required.

## Wash Plate

Excess fluids from priming and washing procedures are safely discarded via a specially designed wash plate.

## Temperature Control

A temperature controlled microplate compartment ensures stable conditions whenever temperature sensitive enzymes or cells are in use.

## Front Access of Reagents

The reagent reservoirs can be placed on the front for easy access and monitoring. A smoked see through lid protects the reagents from light. A base trough allows for the use of ice to keep the reagents cool.

## Modularity

In the any of reading technologies can be combined with each other and any of the options added.

## Technical Specification

<b>Detection Devices-</b>	low-noise photomultiplier tube operated in single photon counting mode, spectral range 340 to 650 nm photo diode, spectral range 200 – 1000 nm
<b>Excitation Sources-</b>	halogen lamp
<b>Sample/Plate Formats-</b>	6 – 384 well plates Terasaki plates Petri dishes filter membranes
<b>Temperature Control-</b>	up to 42 °C including Peltier cooling of photomultiplier
<b>Shaking-</b>	3 modes, 3 velocities
<b>Scanning-</b>	up to 10,000 points per well
<b>Injection-</b>	up to 3 JET injectors variable volume 10 – 100 µL variable speed
<b>Kinetics Operation-</b>	minimum resolution 0.05 sec maximum duration up to 7 days

## Performance

<b>Luminescence-</b>	<6 amol ATP per well <3 zmol Firefly luciferase per well (equals less than 800 molecules)
<b>Crosstalk-</b>	5 x 10 <sup>-6</sup>
<b>Fluorescence-</b>	<0.3 fmol FITC per well
<b>Absorbance-</b>	accuracy <2 % deviation (@ 2 OD, 405 nm) precision <0.6 % CV (@ 2 OD, 405 nm)
<b>Dynamic range-</b>	>6 decades (PMT) 4 decades (photo diode)
<b>Injectors-</b>	accuracy better 98 % over entire volume range precision better 98 % over entire volume range

## Miscellaneous

<b>Dimensions-</b>	390 x 470 x 345 mm (w x d x h) incl. injectors
<b>OS-</b>	Win XP, Win Vista, Win 7
<b>Regulations-</b>	CE

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