TITERTEK BERTHOLD

Orion II Microplate Luminometer

Highest sensitivity and flexibility

Work with the instrument that's fast and easy to use. Get the best out of your luminescence assay – Orion II will exceed your expectations.

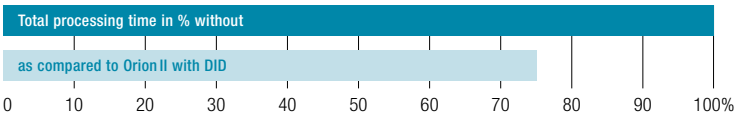
Orion II Microplate Luminometer

Intuitive setup

The Orion II utilizes plug and play installation for hassle free setup. According to user preferences, it can be connected to a PC via USB or serial port as the user prefers. The software will run on the latest Windows® version, as well as earlier versions. Once connected to the instrument, the configuration and instrument settings are transmitted to the PC software automatically.

Optimized protocols for fastest throughput

The Orion II system has the capability to run samples and process measurements in the most time efficient manner. The proprietary Double Injection Design (DID) allows parallel processing of samples saving valuable assay time. DID has been applied to both 96 well and 384 well configurations.



Faster Sample Processing due to Double Injection Design (DID)

Your reading preferences are accommodated

The Orion II is compatible with every luminescence-grade microplate on the market today: black or white, compact or microstrip, standard or low-volume microplates. Processing mode is chosen by user: Measure by column or row. Reading time for an individual well may be set from 0.1 s to 100 s. The samples may be read multiple times for hours and even days. According to individual preference, user may choose to read single, dual or multiple measurement points. In addition, kinetics measurement may be selected with time resolution as fast as 2 ms.

Measure with the highest sensitivity

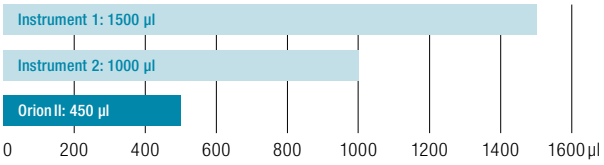
The outstanding sensitivity of Orion II is the result of the unique design, advanced engineering, and high quality workmanship. All functions of the Orion II are seamlessly integrated to render superior, user-friendly performance. The detector is operated in photon counting mode, which guarantees the lowest signal background for unsurpassed signal to noise ratio and the highest linearity. The plate adjustment mechanism automatically compensates for variations in microplate size. The built-in safety circuit protects the detector from potential damage resulting from accidental exposure to high levels of light. In addition, a warning is produced should a sample ever exceed measurement range.

Orion II – Adds sample preparation functions

The Orion II is more than a basic luminometer. It makes assay preparation flawless. For assays that require shaking, three mixing modes are available: linear, orbital and cross shaking. Flexible speed and amplitude settings allow easy adaptation to any assay protocol. Orion II offers two different types of sample incubation. Top and bottom microplate incubation ensures exceptional temperature stability in the sample chamber for temperature control up to 50°C. For applications that require up to 42°C incubation, the optional bottom heating function is recommended.

Unlimited options for reagent addition

The combination of reagent addition options is virtually unlimited. Up to four automatic reagent injectors are available with injection volumes of 10 to 150 µl each. For increased throughput, simultaneous injection is possible. The optimized reagent holders accommodate any shape and any size bottle in a position that allows the complete use of valuable reagent.

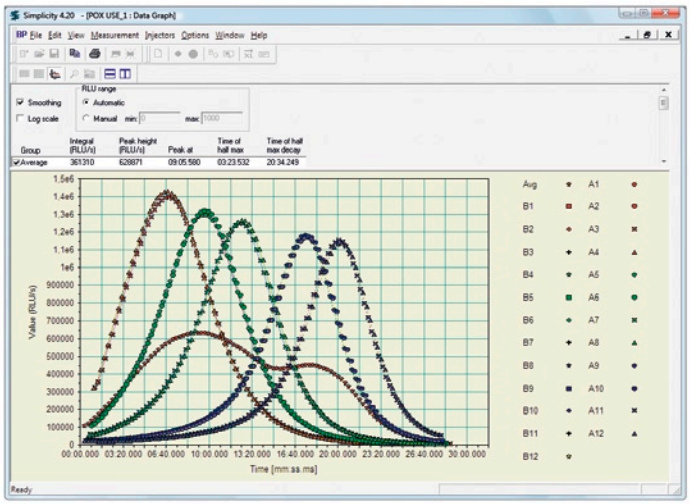


Orion II has considerably lower injection system volume than any other instrument. This leads to lower reagent consumption.

Excellent results quickly

The Orion II detection assembly: lowest noise and highest sensitivity among photon-counting detectors.

The unique design of the bottle holders is just one of many features which make everyday operation easy.



Highest reproducibility in a flash reaction:
The combination of high precision injection and fast photon counting ensures excellent reproducibility of replicate measurements both in terms of raw data and kinetic curve shape.

More than just an instrument – Lifetime service and support

Validation tools

Our goal is to ensure that your instrument will be in excellent condition for the lifetime of the product. If there is a need to validate and document proper function of the luminometer, Berthold Detection Systems offers a full line of quality validation tools: The Luminescence TestPlate has stable light sources which span over the entire dynamic range of the luminometer. Packaged with our intuitive and comprehensive software, the Luminescence TestPlate makes automatic detector validation an easy task. Additionally our IQ/OQ/PQ documentation packages include all necessary instructions to test and document all instrument functions, meeting even the most demanding laboratory regulations (such as pharmaceutical R&D, and clinical product manufacturing).

Outstanding after sales support

Selling an instrument is only the beginning of the relationship for us.
Our experienced and customer-oriented staff is looking forward to help you with any inquiry, request for assistance or troubleshooting issue.

Orion II Technical Data

Luminometer	
Sample Format	96 and 384 well microplate opaque in solid or strip format
Detector	Photon counting low noise PMT, spectral range 300–600 nm
Sensitivity	10 attomole ATP
Crosstalk	Less than 3×10^{-5}
Dynamic Range	6 decades
Measurement Time	0.1–100 s per well
Scan Pattern	Random selectable single well
Shaker	Linear, orbital or cross shaking
Sample Incubation	From RT +5°C to 42°C or 50°C
Injectors	Up to 4 injectors: 2 injectors in pre-position, 2 in measurement position
Injection Volume	10–150 µl in 1 µl increments
Injection Pattern	Simultaneous injection into two adjacent wells possible (DID)
Tubing	Chemically inert PTFE tubing and connections (PTFE; KEL-F; glass; PS), easily exchangeable liquid handling system and tips. Minimal dead volume due to short reagent lines (ca. 450 µl)
Priming	Forward and reverse priming, external priming container or built-in priming container (optional)
Automation	Compatible with all known microplate transfer devices
Power Requirements	100–240 V AC; 50–60 Hz
Power Consumption	30 VA, maximum 70 VA (4 injectors and heating)
Storage Temperature	0–40°C
Operating Temperature	10–30°C
Humidity	10–80% (non condensing)
Dimensions (H x W x D)	25.5 x 38.5 x 41 cm / 10 x 15.4 x 16.4 inch
Weight	22 kg / 48.5 lb

PC Software	
Interfaces	USB, RS-232 (serial interface)
Operating System	Windows® XP, Windows® Vista, Windows® 7, 8 and 10
Additional Software	Microsoft Excel™ (optional)
Standard Configuration	Raw Data
Additionally Available	Fast Kinetics, Dual Measurement, Batch Protocol

Ordering Info	Ordering Info
113 000 10	Orion II 96 well Microplate Luminometer
113 000 14	Orion II 96 well Microplate Luminometer, 42°C incubation
113 000 15	Orion II 96 well Microplate Luminometer, 50°C incubation
113 000 20	Orion II 96/384 well Microplate Luminometer
221 000 51	Injector assembly for Orion II Microplate Luminometer
155 201 43	Simplicity Software V.4 Fast Kinetics, Dual Measurement, Batch Protocol Licences
140 001 10	Luminescence TestPlate for validation
135 001 10	IQ/OQ/PQ Qualification Package

Specifications subject to change without prior written notice.
For research use only. Please inquire for IVD versions.

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