FB12 Single Tube Luminometer

The Gold Standard for Glow Luminescence

FB12 Performance and Ease of Use

Versatile sample formats

Concept

The FB12 system is ideal for measurement of glow type luminescence from single samples. Due to the unique design, a variety of sample formats can be accommodated. FB12 Luminometer combines a very small footprint with excellent sensitivity and outstanding ease of use.

In stand-alone mode, FB12 is ready for standard measurements. Samples are readily loaded into the retractable drawer. Closing the sample drawer automatically initiates the measurement. An external printer may be connected optionally.

The modular Windows® Luminometer PC-Software or the Pocket PC-Luminometer Software can further enhance performance by organizing the measurement dialog and data evaluation.

Applications

FB12 is the instrument of choice for all luminescent glow type applications performed in single sample format, for example:
· Reporter gene assays, including dual-reporter assays
· ATP assays
· Cell proliferation, cytotoxicity and biomass assays, apoptosis assays
· Detection of mycoplasma contamination in cell culture
· Cellular luminescence/reactive oxygen species
· Environmental toxicity and mutagenicity assays

Detector

The FB12 Luminometer features advanced photoncounting electronics coupled with a highly sensitive detector, providing the lowest signal background and highest linearity spanning 6 decades. No cumbersome internal calibration is required and no gain switch is needed.

Light collection is maximized through both the proximity of the sample to the detector and the use of optimized light reflectors surrounding the sample vial. As a result, reporter gene assays using firefly luciferase can now detect less than 1000 molecules of the enzyme with the FB12 Luminometer.

Stand-alone Operation

FB12 offers basic raw data, extended raw data and Cut-off measurement protocols. The interface supports the addition of an external serial printer. Three softkeys allow easy and intuitive operation. Both delay and measurement time can be set in steps of 0.1s.

Windows PC Software Platform

The capabilities of the FB12 Luminometer are enhanced by its PC-Software. Even complex tasks can be performed conveniently using the PC program which runs on a Microsoft® Windows® platform. It provides a direct link to the Microsoft® Excel spreadsheet program. All suitable Windows® features are supported. The software relies on open system architecture:

The basic module for standard measurements meets most basic needs. For more demanding tasks, Single Assay, Dual Assay, Single Kinetics, Multiple Kinetics and Cut-off Assay protocol types are available.

FB12 Technical Data

Single Tube Luminometers with USB and serial connection – available only from Berthold Detection Systems

Luminometer

Sample Format	Tubes up to 12 mm in diameter up to 75 mm length, microfuge tubes, 35 mm culture dishes, liquid scintillation vials up to 20 ml.
Detector	Photomultiplier tube with bialkali cathode, effective spectral range 300–600 nm (extended range on request), operated in photon counting mode.
Measurement Chamber	Retractable drawer with interchangeable reflectors and sample adapters.
Sensitivity	Better than 1000 molecules firefly luciferase.
Dynamic Range	More than 6 decades without gain switch ensuring best linearity over the entire range.
Operating Software (Microprocessor)	Operation via three softkeys. · Measuring and delay time settings in increments of 0.1 s. · Data output in RLU/sec. Additional data evaluation modes (external printer required): · Extended raw data protocol · Cut-off protocol
Interfaces	Serial interface (RS-232) and USB interface for PC.
Power Requirements	DC 12 V, 0.6 A supplied through mains adapter (included).
Dimensions	H: 22 cm, W: 22 cm, D: 20 cm.
Weight	2.5 kg.

PC Software (optional)

Platform/Required Hardware	Windows® compatible PC, Pentium like processor, one available serial or USB port.
Operating System	Windows® 2000, XP, Vista, Windows® 7.
Additional Software	Microsoft Excel™ 2000 or higher (optional).
Basic Configuration	Protocol Manager, Quick Measurement.
Additionally Available	Single Assay, Dual Assay, Single Kinetics, Multiple Kinetics, Cut-off Assay.

External Printer (optional)

Serial (RS-232) Printer	Thermal matrix printer with 40 characters per line.

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DETECTION SYSTEMS