

ULTRASENSITIVE. RELIABLE. ACCURATE.

The Centro Microplate Luminometer



BERTHOLD

FLEXIBLE. EASY-TO-USE. SUPERIOR PERFORMANCE.

High-performance flash and glow assay readings

The Centro is a high-performance, easy-to-use microplate luminometer for both flash and glow luminescence applications.

The optimized optical system provides lowest background and negligible crosstalk (10^{-6}). Due to its superior sensitivity (< 1.8 zmol firefly luciferase) and wide dynamic range (> 6 orders of magnitude), the Centro is ideally suited for all luminescent reporter gene assays, immunoassays (LIA, ILMA), cell-based and biochemical assays.

Technology for maximum freedom of application

The Centro provides various technologies and a range of options to address specific assay needs you may have:

- **Superior detector technology:** Low noise photon counting photomultiplier (PMT) providing a better signal-to-noise ratio and a more stable signal
- **Shaking:** 3 modes with variable amplitude and speed for optimal sample distribution when preparing long term kinetic studies.
- **Heater:** Optional sandwich-type heater to reduce evaporation effects for better temperature control.
- **Reagent dispensing:** Up to 3 independently controlled JET-injectors providing highest precision and accuracy ($< 2\%$).
- **Robot compatibility:** Included robot integration module for easy integration into your lab automation workflow.
- **Adaptation to different applications,** e.g. Aliivibrio fischeri or Acridinium Ester



The optional injectors are integrated into the housing of the system to save precious bench space.

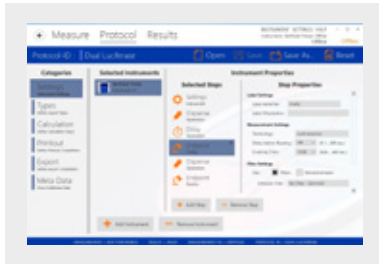
Centro benefits at a glance

- **Have confidence in your results:**
Ultrasensitive design, excellent crosstalk reduction (10^{-6}) and broad dynamic range (> 6 orders of magnitude) for superior performance.
- **Designed to support your research:**
A built-in shaker, JET-injectors and temperature control (model-dependent) in combination with an ergonomic design and automation compatibility for maximum flexibility.
- **Fast setup and intuitive analysis:**
The system is ready to start within minutes (plug & play) and the easy-to-use LightCompass® Software manages instrument control, data collection and data analysis.
- **Easy validation:**
Installation Qualification and Operation Qualification steps are performed according to detailed instructions provided (optional Qualification package).

INTUITIVE OPERATION. MEET YOUR COMPLIANCE REQUIREMENTS.

Software and validation tools

LightCompass® Software



LightCompass® is a flexible software enabling easy data acquisition, analysis and reporting using Berthold Technologies' instruments.

- Flexible creation of measurement protocols
- Curve fitting
- Qualitative analysis
- Compliance with FDA 21 CFR Part 11

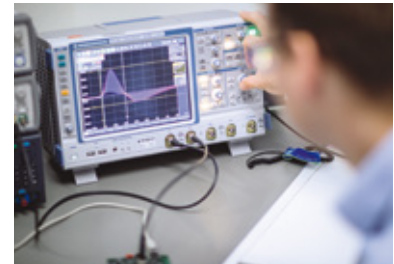
Validation Tools



We provide a variety of tools to help you check and confirm the performance of your products over time.

- Luminescence test plate
- Injector cleaning solution
- IQ/OQ procedures

Service



We and our local partners are always at your side to optimize your productivity.

- Maintenance & repair services
- IQ / OQ services
- Calibration certification & more

Designed to support your research

Optimize your bench space

- Flat system surface that provides enough space for a laptop
- Optional features, such as injectors, are seamlessly integrated into the Centro's housing to maximize bench space and ensure easy access.



The Centro has a flat surface on its top, providing enough space to put down a laptop.

Our Instruments speak LADS

The new communication standard for laboratory and analytical instruments is now available from us!

- Easy and fast implementation
- Cloud & LIMS connectivity
- Remote control
- Open Source
- Automation solution possible



TECHNICAL SPECIFICATIONS

Technical Specifications	
Detection unit	Low-noise photomultiplier tube in single photon counting mode Spectral range: 340 - 630 nm
Sensitivity	< 1.8 amol ATP (Centro XS) < 1.8 zmol firefly lucif. (Centro XS) < 5 amol ATP (Centro) < 2 zmol firefly luciferase (Centro)
Dynamic range	> 6 orders of magnitude
Crosstalk	Low crosstalk due to crosstalk reduction design: 10 ⁻⁶
Injection Unit	Up to 3 injectors, JET-injection technology Variable volumes: 10 - 100 µL Speed 200 - 440 µL/sec Accuracy better 2% (@100 µl with distilled water) Precision better 2% (@100 µl with distilled water)
Shaking	3 modes, variable amplitude and speed
Temperature Control	+5°C above room temperature up to 45°C
Microplate Formats	96 well; 384 well (only Centro XS), solid and strip, dimensions 128.2 x 86.0 x 14.7 mm (L x W x H)
Interface	USB-type
PC Operating System	Windows 10 or higher
PC requirements	Pentium-like CPU (2 GHz or better / Intel Core iX recommended), 1 free USB port
Regulations	CE, NRTL
Power Supply	100 - 240 VAC ± 10%, 50/60 Hz
Operating Voltage	24 VDC / 6.67 A
Power Consumption	3.0 A
Temperature Range	Storage: 0 - 40°C Operation: 15 - 35°C
Humidity	10 - 80% non-condensing Maximum relative humidity of 80% for temperatures up to 31°C; decreasing linearly to 50%, relative humidity up to 40°C
Amplitude	max. 2000 m (above sea level)
Dimensions (WxDxH)	346.8 x 287.5 x 443 mm
Weight	21.8 kg
LightCompass® Software	Data acquisition: endpoint, kinetics, repeated and scanning Data analysis: quantitative (curve fitting), qualitative (cut-off) Result reporting: fully customizable Multi-user: different access levels CFR 21 part 11 compliant (LightCompass® Professional)

Ordering Information Centro	
LB 963 Centro Research 96-well, LightCompass Software, up to 3 injectors (optional)	70325-10
LB 963 Centro Advanced 96-well, LightCompass Software, heating, up to 3 injectors (optional)	70325-15
LB 963 Centro XS 96-well, LightCompass Software, high sensitivity, up to 3 injectors (optional)	70325-20
LB 963 Centro Aboatox, 96 well, LightCompass Software, incl. Injector 3	70325-40
LB 963 Centro Acridinium ester 96 well, LightCompass Software, incl. 2 Injectors	70325-62
Options for Centro	
Aperture 384 well for LB 963 Centro XS	74557
Injector 1 pre-position, 10 - 100 µL	70379-01
Injector 2 pre-position, 10 - 100 µL	70379-02
Injector 3 pre- or measurement position, 10-100 µL*	70379-03
Luminescence test plate for QC	40105-10
Cleanit Daily, injector cleaning solution	45218
LightCompass® Professional	37854-403
LightCompass® Plus	37854-404
Subject changes without prior notice.	

*measurement position only available for Research, Aboatox and Advanced model

TRANSFORMING SCIENCE INTO SOLUTIONS



Berthold Technologies is a global technology leader in life sciences. Our extensive range of analytical system solutions made in Germany has been trusted by scientists since 1949. These range from small standalone readers, such as microvolume spectrophotometer and luminometers to various dedicated and multimode readers, microplate washers, microplate workstations, ELISA automation products to high-end imaging systems, and HPLC radio detectors. It is our mission to create a healthier world, a safer environment and more efficient manufacturing processes.

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