



**ULTRASENSITIVE.  
RELIABLE. ACCURATE.**

The Centro Microplate Luminometer

*Transforming science into solutions*

# FLEXIBLE. EASY-TO-USE. SUPERIOR PERFORMANCE.

High-performance flash and glow assay readings



The Centro is a high-performance, easy to use 96-well 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.

## DESIGNED TO SUPPORT YOUR RESEARCH

### Optimize your bench space

- Flat system surface that provides enough space for a laptop
- Functions, such as the optional injectors, are integrated into the laboratory housing saving space and providing convenient access

## 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.

### ■ Easy setup and analysis:

The system is ready to start within minutes (plug & play) and the easy-to-use ICE Software manages instrument control, data collection and data analysis.

### ■ Easy validation:

Installation Qualification, Operation Qualification and Performance Qualification steps are performed according to detailed instructions provided (optional 3Q package).



Figure 1: The Centro has a flat surface on its top, providing enough space to put down a laptop.

## 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



Figure 2: The optional injectors are integrated into the housing of the system to save precious bench space.

- and accuracy (>98%) over the entire volume range.
- **Robot compatibility:** Optional robot integration module for easy integration into your lab automation workflow.

# INTUITIVE OPERATION. MEET YOUR COMPLIANCE REQUIREMENTS.

Software and validation tools

## Software Options



Choose between different software options according to your application needs.

- **ICE software:**  
Intuitive, wizard-guided software for instrument control, data collection and data analysis.
- **MikroWin software:**  
Optional software providing 21 CFR Part 11 compliance and additional data analysis and QC features.

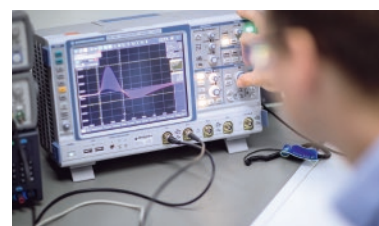
## Validation Tools



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

- Luminescence test plate
- QC luminescence test kit
- 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 / PQ services
- Calibration certification & more

### 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 <sup>-6</sup>
Injection Unit	Up to 3 injectors, JET-injection technology Variable volumes: 10 - 100 µL Speed 200 - 440 µL/sec Accuracy better 2% (over entire range of volume) Precision better 2% (over entire range of volume)
Shaking	3 modes, variable amplitude and speed
Temperature Control	+5°C above room temperature up to 45°C
Microplate Formats	96-well, 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 (32/64 bit)
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

### Berthold Technologies GmbH & Co. KG

Calmbacher Straße 22  
75323 Bad Wildbad  
GERMANY  
phone: +49 7081 177 0  
email: bio@berthold.com

[www.berthold.com/bio](http://www.berthold.com/bio)

### Ordering Information Centro

LB 963 Centro Research 96-well, ICE Software, up to 3 injectors (optional)	70325-10
LB 963 Centro Advanced 96-well, ICE Software, heating, up to 3 injectors (optional)	70325-15
LB 963 Centro XS 96-well, ICE Software, high sensitivity, up to 3 injectors (optional)	70325-20

### Options for Centro

Injector 1 pre-position, 10 - 100 µL	70379-01
Injector 2 pre-position, 10 - 100 µL	70379-02
Injector 3 pre- or meas. position, 10-100 µL*	70379-03
Robot integration module	39368
Luminescence test plate for QC	40105-11
Luminescence test kit for QC	55101
Cleanit Daily, injector cleaning solution	45218
MikroWin 2010 Lite (Curvefit, Kinetic, Scanning, Controls, Threshold, max 5 calc. matrices)	37854-304
MikroWin 2010 Advanced (Curvefit, Kinetic, Scanning, Controls, Threshold, User Access, Audit Trail, Automation)	37854-303

\*measurement position only available for Research and Advanced model

### ICE Software

- Wizard support for parameter entries
- Single and multiple endpoint
- Kinetics and Repeated
- Ratio calculation or subtraction
- Display of kinetic curves incl. zoomed view
- Raw data assays (reporter genes, caspases, etc.)
- Dual raw data assays (e.g. dual reporter genes)
- Delay (up to 3600 seconds)
- Data export: EXCEL
- Touchscreen enabled

© Berthold Technologies. All rights reserved.  
All trademarks are the property of Berthold Technologies or their respective owners.  
Berthold Technologies reserves the right to implement technical improvements and/or design changes without prior notice.

FOR RESEARCH USE ONLY.  
NOT FOR USE IN DIAGNOSTIC PROCEDURES.