



**ULTRASENSITIVE.
RELIABLE. ACCURATE.**

The Centro Microplate Luminometer

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 and accuracy ($>98\%$) over the entire volume range.



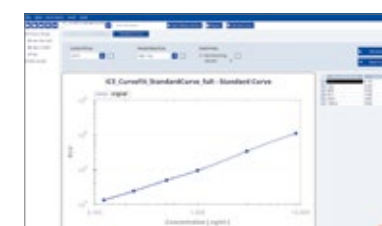
Figure 2: The optional injectors are integrated into the housing of the system to save precious bench space.

- **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^{-6}
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 $\pm$ 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

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	40105-10
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

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