

ORBIT 16 TC

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Take the pain out of painting

Sleek Compact Redesign

Further simplified design for easiest access to bilayer experiments. Extremely small footprint for a 16-channel bilayer device enabling automated painting of all membranes in parallel.



Powerful 60 W Temperature Control System

Enabling experiments at physiological temperatures, control of kinetics via alteration of temperature and experiments on temperature sensitive species like e.g. TRP channels.

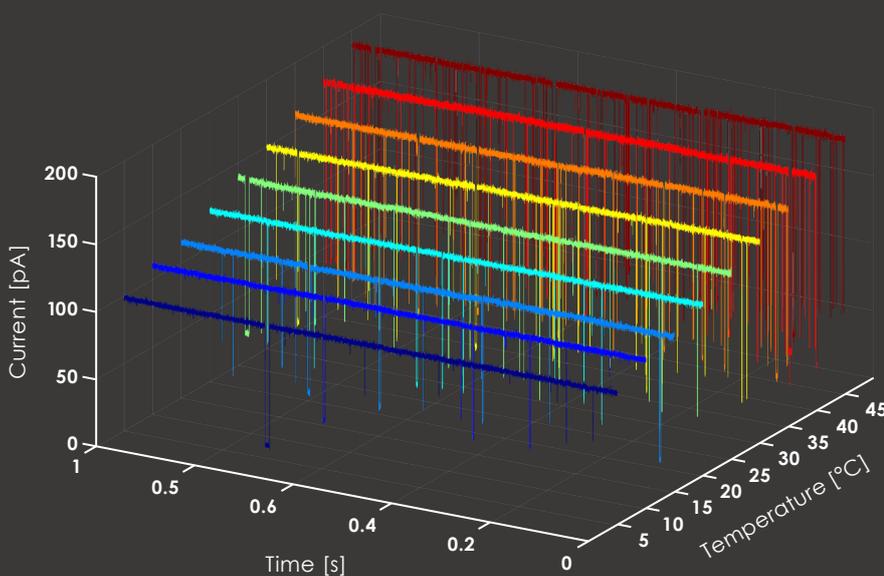
Workstation

The Orbit 16 TC can be connected to any workstation simply via USB.



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Representative current traces through a single alpha-Hemolysin pore blocked by polyPEG-1500, illustrating an increase in open pore current and blockage frequency as a function of elevated temperatures.



Data courtesy of Ionera GmbH.

The Orbit 16 TC is explicitly designed to meet the special requirements of high-throughput experiments on artificial bilayers at freely definable temperatures between 5–50°C. Use of Ionera's MECA (micro electrode cavity array) 16 TC chip technology combined with a built-in state of the art low noise e16n amplifier (Elements S.R.L.) enables the fully parallel recording of 16 separate lipid bilayers at bandwidths up to 100 kHz at excellent signal-to-noise ratios.

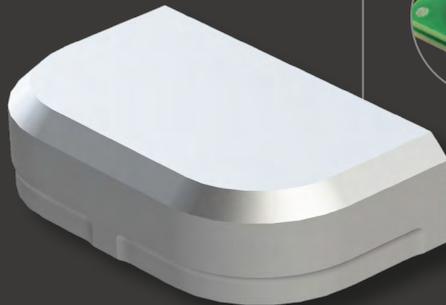
The automated generation of 16 separate lipid bilayers by the push of a button as well as its small overall footprint maximize the system's everyday usability while drastically increasing success rate and decreasing the overall time needed for data generation. Easy to learn and to use data acquisition and immediate data validation via an online analysis feature are the hallmarks of the Orbit 16 TC's tailor-made EDR4 software.

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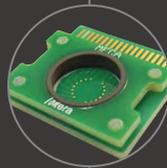
Outer Aluminum Lid

Complete protection of experiments towards the environmental surroundings. Optimization of temperature controlled experiments.



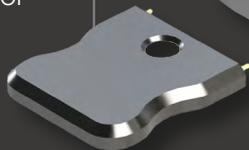
MECA 16 TC chip consumables (lonera Technologies)

The MECA 16 TC chip forms the whole measuring chamber which completely eliminates contamination artifacts and allows for extremely low component consumption due to miniaturization. The chips are suitable for flexible choice of experimental conditions and can be thoroughly cleaned and reused several times.



Inner Lid

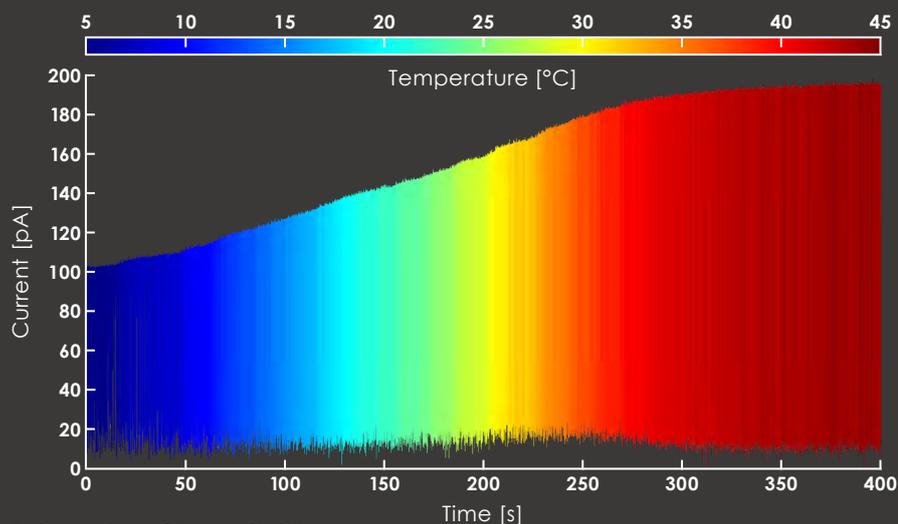
Covering the recording chip and serving as Faraday cage while still providing full access to the chip for buffer exchange and compound addition.



New e16n-amplifier (Elements S.R.L.)

Data recording from all 16 channels fully in parallel at final bandwidths up to 100 kHz per channel and supreme noise levels for all channels. Including dedicated and easy-to-learn EDR4 recording software, allowing for individual control of single recording channels.

The current response of a single alpha-Hemolysin pore blocked by polyPEG-1500 in response to the temperature being continuously elevated from 5–45 °C.



Data courtesy of lonera GmbH

