

Nanopore Reader 4x10MHz

The world's first 4-channel, 10 MHz current amplifier for nanopore research. Compact and integrated readout device with an array flow cell enables high-throughput, precise measurements across 4 solid-state nanopores with exceptional performance.



Technical specifications

Open input (RMS) noise: 495 pA rms @10MHz; 150 pA rms @1MHz; 40 pA rms @100 kHz

Noise with 10M Ω //2.5 pF model cell: 1025 pA rms @10MHz; 190 pA rms @1 MHz; 43 pA rms @100 kHz

Current ranges: \pm 100nA (Gain 10M Ω)

Voltage stimulus range: \pm 1000 mV, independent for each channel

Stimulus Bandwidth: 16 kHz / 1.6 kHz

Max available bandwidth: 10 MHz

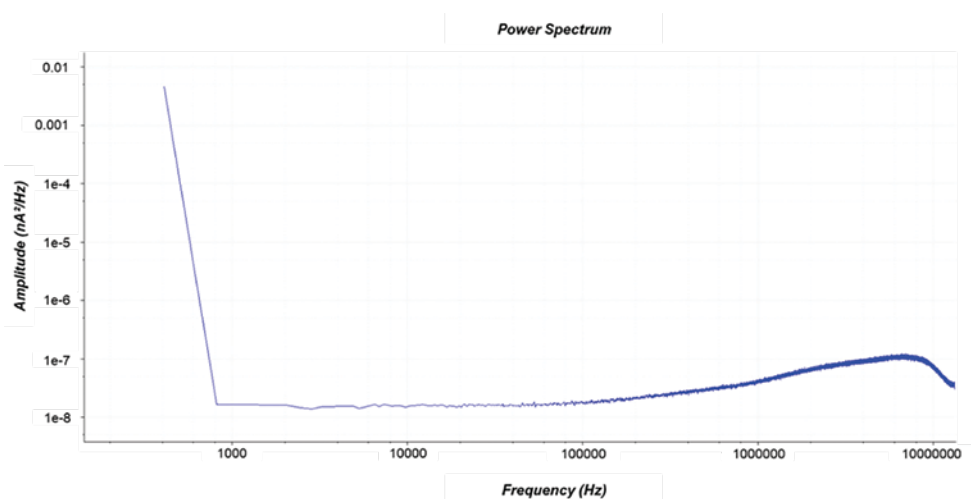
Max sampling rate: 26.6 Msps per each channel

Max number of channels: 4

USB 3.0 - type C connector

Size & Weight: 300x110x40 mm, 1400 g, 5Vdc power supply

Noise Spectrum with Model Cell 10 M Ω //2.5 pF



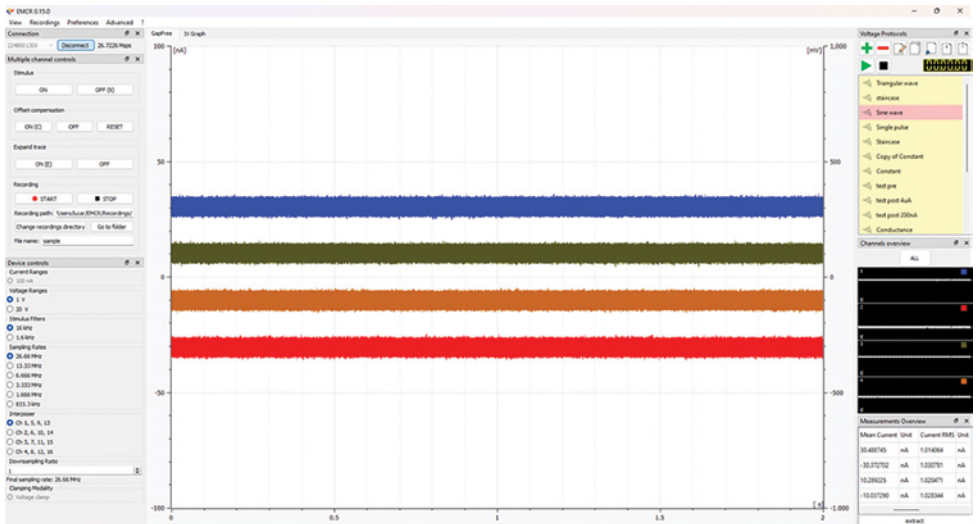
Nanopore Flow Cell

The nanopore Flow Cell Array integrates 4 or 16 nanopore slots hosting 5x5 or 4x4 mm square nanopore chips. Two compartments for fluids and the Ag/AgCl electrodes complete each mini Flow Cell. It is possible to read 16 channels, 4 at a time, through an interposer (multiplexer), selecting each row via software, at the cost of a little noise performance decrease.



EMCR, Elements Multichannel Reader Free Software Interface

EMCR software interface enables an easy control of the amplifier, displaying, saving and analyzing data in real time. Voltage stimulation, bandwidth, sampling rate and electrode offset compensation can all be easily selected and modified. RMS noise can be continuously monitored, and input resistance/conductance can be estimated via the real time I/V graph. Data can be stored in commonly used formats like .abf



Features

- Customizable user-friendly Windows-format interface
- Real-time display of voltage and 4 current channels digitized data
- Parametric voltage protocols editor
- Real-time data analysis (I/V graph, noise estimation)
- Data output saving format: .abf
- Application programming interface (API) available

