Imp™ V.2

State-of-the-art in impedance measurement and electroplating.

Automated Impedance testing for large channel count electrode arrays. Connect Imp to a computer, download software, connect electrodes, and test.

The Imp Samtec connectors are compatible with all array connectors:

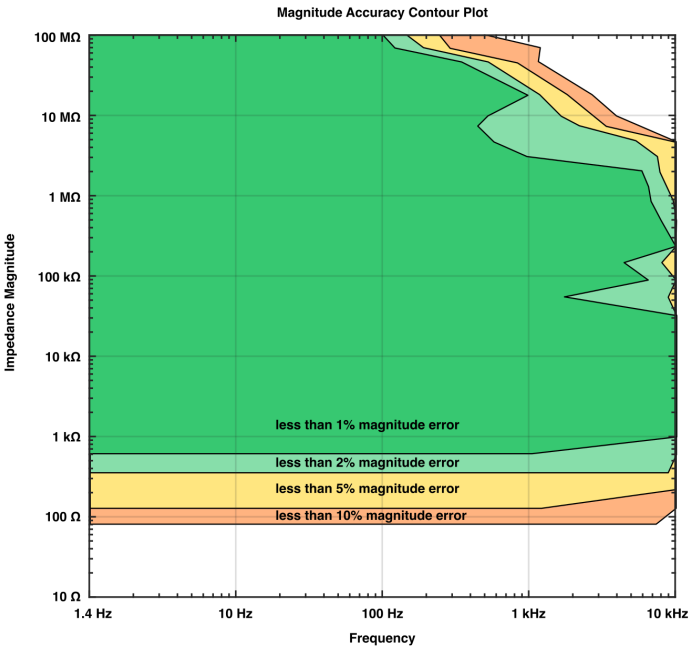
- Modular Bionics N-Form® 32 – 128 channel chronic probes (connector adaptors)
- Acute 32 – 128 channel silicon probes from Cambridge NeuroTech, NeuroNexus, and Atlas Neuroengineering. (direct connection)
- Chronic 96 – 128 channel probes from Blackrock (connector adaptors)
- Electrodes requiring custom adapters (inquire at sales@modularbionics.com)

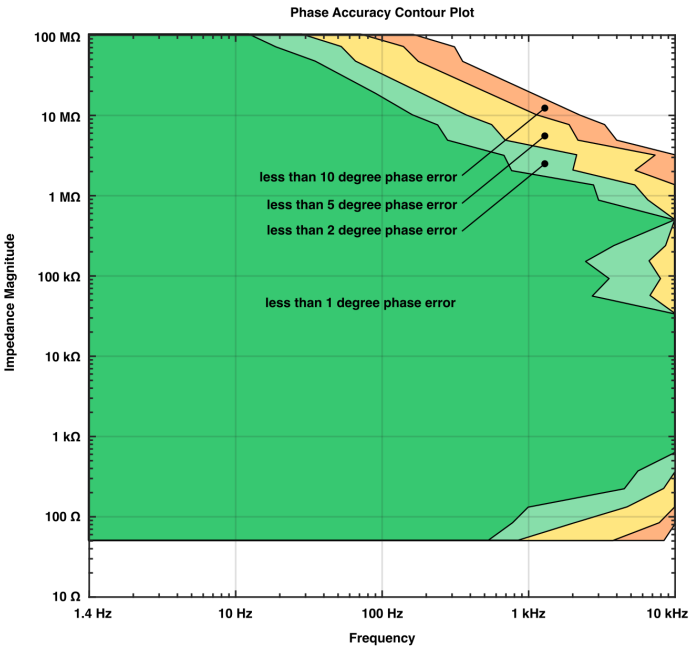
Caution - Device for investigational use in laboratory animals or other tests that do not involve human subjects.

Imp Technical Specs	
Number of Channels	up to 128
Impedance Working Range	80 Ω - 100 Ω
Impedance Test Accuracy	Display resolution: 1 Ω (see plot below)
Impedance Frequency Range	1.4 Hz - 10 kHz
Impedance Test Current Limit	Low test current in vivo and in vitro use (high Z Mode) < 1 nA (RMS) for impedance > 1 MΩ < 2.8 nA (RMS) for impedance < 1 MΩ
Maximum Current	High Mode: 2.8 nA RMS, Low Mode: 280 nA RMS
Impedance Test Signals	4 mV peak-to-peak sinusoid
Constant Current Electroplating	+/- 5V compliance, +/- 12uA range
Electrode Resolution	5 nA, 10 mV

Features

- Test 128 channels in under 25 seconds (mode/computer dependent)
- Electroplate a wide range of electrodes
- State of the art accuracy for any electrode
- More customizable measurements than headstages





Accuracy contour plots were based on impedance measurements of fixed resistors between 51 Ω and 100 MΩ. Magnitude and phase accuracy assumed ideal resistor behavior. Magnitude accuracy was evaluated by comparing the Imp impedance magnitude measurements to the compensated impedance magnitude measurements at 1 Hz of a Gamry Reference 600 potentiostat. Phase accuracy was evaluated by comparing the Imp impedance phase measurements to 0 degree phase.

L020-24 (Rev A0, 2024-10-01)

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