

Neuropixels Digital Headstage

Hardware Reference



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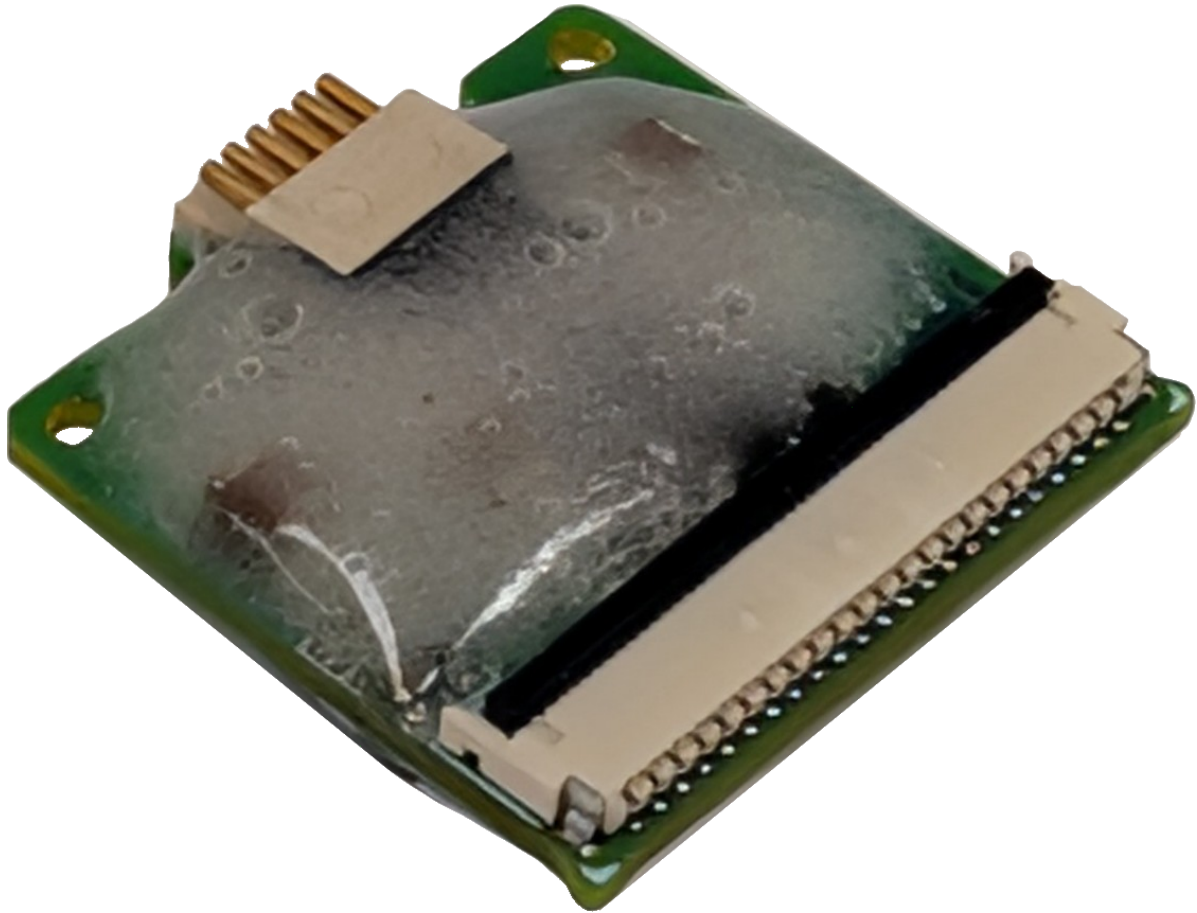
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Table of contents

Neuropixels Digital Headstage	4
Neuropixels NP1 Overview	4
Neuropixels Digital Headstage Interface Connection	4
NP1 Digital Headstage Technical Specifications	6

Neuropixels Digital Headstage



Neuropixels NP1 Overview

The NP1 Neuropixel digital headstage mates with Neuropixels v1.0 probes to digitize physiological recordings directly inside the headstage. Digitized signals are routed to an iD3 iCon module with a digital input board for transfer to an iConQZo or RZ base station. A single iD3 can support up to 384 channels via a direct connection to the NP1. The headstage cable is detachable for easy, low-cost replacement.

Part Numbers:

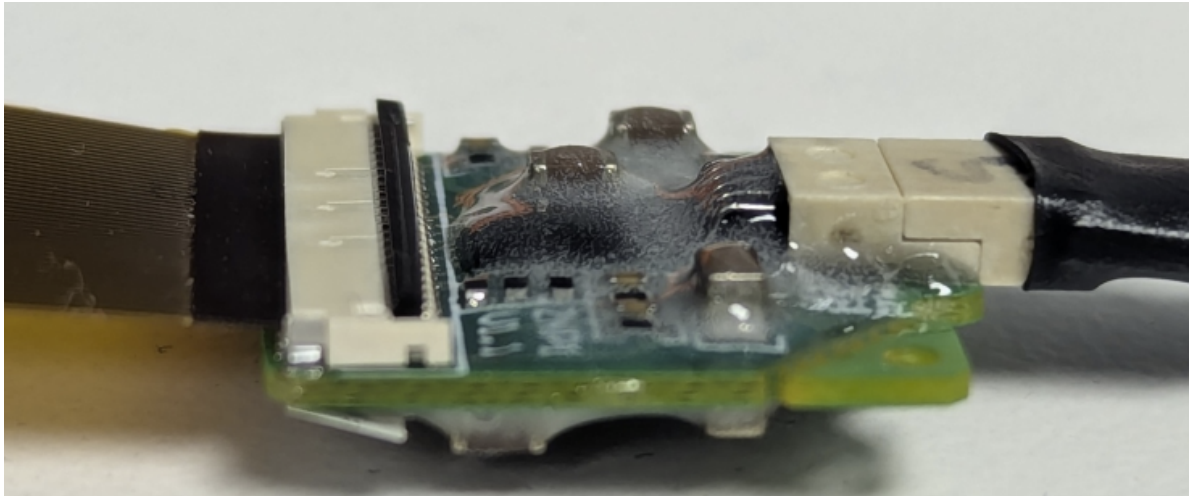
NP1 - Neuropixels Digital Headstage

ZD-CBL - digital headstage cable

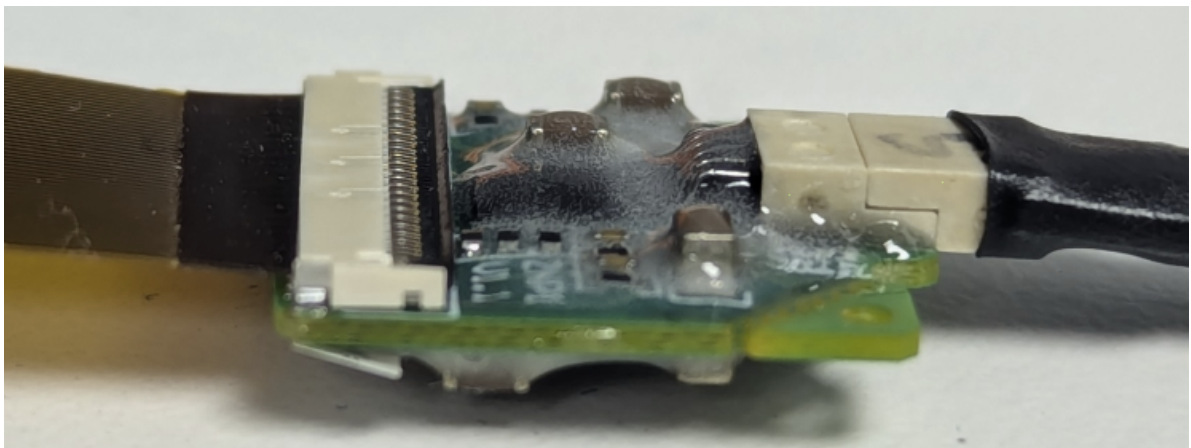
Neuropixels Digital Headstage Interface Connection

The NP1 uses a single detachable SPI Interface Cable that transmits all channels to a digital input board housed in an iD3. The other end of the NP1 attaches to the ribbon cable on the Neuropixels

v1.0 probe. With the black connector clasp open, slide the ribbon cable (gold contacts facing the NP1) into the white connector and push the black clasp down to secure it.



NP1 Open



NP1 Closed



Neuropixels NP1 Digital Headstage to iD3 Connection

NP1 Digital Headstage Technical Specifications

Input referred noise	SU: 5.9 μ Vrms LFP: 9.2 μ Vrms
A/D	Up to 384 channels, 10-bit resolution
A/D Sample Rate	Up to 24414.0625 Hz
Gain	50x - 3000x (8 values)
Maximum Voltage In	± 5 mV
Frequency Response	SU: 0.3 Hz - 10 kHz LFP: 0.5 Hz - 500 Hz
Crosstalk (typical)	<0.13% at 1kHz
Mass	1.4 g with resin
Dimensions	Height: 16 mm Width: 16.1 mm Thickness: 5 mm with resin (typical)

See [Neuropixels 1.0 Spec Sheet](#) and [Neuropixels 1.0 NHP](#) for more information.