Neuralynx

High Density Electrophysiology Recording Systems

Hybrid Input Board

Digital Lynx SX Backplane Module
32 Hybrid Coupled Channels
Ultralow Noise

Features:

- 32 Differential Input Amplifiers with 24 bit A/D Converters
- ±132mV Measurable AC Input Range
- ±1000mV Measurable DC Input Range
- Ultra Low Noise
- Very Low Channel Leakage Current
- Very High Common Mode Rejection Ratio
- Internal Reference Selection or Programmable Reference Selection with the DRS-36 Expansion Module
- Headstage Power Control
- IEC 61000-4-2 Level 4 ESD Protection on all Analog Inputs

Electrical Characteristics:

Parameter	Conditions	Name	Min	Typ	Max	Units
Input Range AC		IRAC	±132.0	-	-	mV
Input Range DC		IRDC	±1.0	-	-	V
Common-Mode Voltage		VCM	5	8	-	V
Differential Voltage		VDIFF	1	-	-	V
RMS Noise	f = 0.1Hz - 100Hz	NRMS	-	0.3	0.5	µV
	f = 100Hz - 9kHz		-	1.3	1.5	µV
	f = 10Hz - 9kHz		-	1.3	1.6	µV
	f = 0.1Hz - 9kHz		-	1.4	1.7	µV
Common-Mode Rejection Ratio	VCM = 5V, f = 60Hz	CMRR	100	110	-	dB
Individual Channel Leakage Current	Temperature = 25°C	IL	-	10	25	nA
Input ESD Protection	Contact	VESDC	6	-	-	kV
	Air	VESDA	8	-	-	kV

Description:

The Digital Lynx Hybrid Input Board is a Backplane Module that adds 32 Hybrid Coupled Channels to a Digital Lynx SX Data Acquisition System. It seamlessly integrates extremely low noise differential amplifiers with 24 bit A/D converters sampling at rates between 20KHz and 40KHz. Each Channel is Hybrid Coupled, meaning large DC potentials, up to ±1V, and small AC signals, up to ±132mV, can be measured in unison without any DC errors. Refer to the Frequency Response Graph shown below. Each channel

Revision 1.1
8/12/2013

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also boasts very high CMRR ensuring exceptional reference subtraction and immunity from external electromagnetic interference sources. All analog inputs are ESD Protected up to Level 4 by IEC 61000-4-2 Standards while maintaining extremely low leakage currents.

The Digital Lynx Hybrid Input Board can be used alone with its internal reference selection or in combination with a DRS-36 Board for programmable reference selection.

The Hybrid Input Board is a direct replacement for the AC Input Board.

Frequency Response: