

BENEFITS

- operating two laser heads at the same time
- software and user controlled mic IEPE supply
- simplified laser head setup without external power supply unit
- IEPE sensor detection

FEATURES

- dual laser Input with short-circuit-proof power supply
- IEPE compliant sensor-supply integrated
- monitoring output
- 24 V_{DC} sensor supply voltage
- supports Klippel B-Field sensor
- IEPE status monitoring

DESCRIPTION

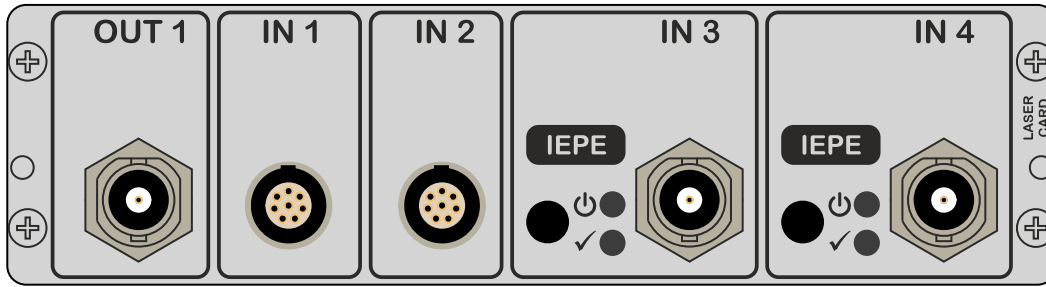
The Laser-Card is a hardware extension for the Klippel Analyzer 3 intended to host microphone and displacement sensors. It features a universal BNC output to monitor signals with third party devices such as oscilloscopes. Built in IEPE compliant power supply at BNC inputs eliminates the need for external power circuitry if using microphones, accelerometer or other IEPE compliant sensors. The Laser-Card also offers short-circuit proof 24V power supply on 8 pin-coax inputs to power the displacement- or a B-field sensor.

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1 Introduction



Laser-Card

Element	Comment
OUT 1	Unbalanced universal BNC output
IN 1 / 2	The 8 pin-coax socket provides a balanced input as well as power for external sensors. It may host a laser displacement sensor or a B-field sensor.
IN 3 / 4	Unbalanced BNC input with switchable IEPE compliant power supply. The power supply can be switched by pressing the black button or via dB-Lab. The LED  indicates IEPE power is switched on. The LED  indicates power consumption of the connected sensor.

2 Specification

2.1 Maximum Ratings

Parameter	Conditions	Max	Unit
Input voltage, any pin (except GND)		50	V
Input current (DC), any pin		20	mA
Transient input current, any pin	T < 1 ms	6	A

2.2 Electrical Specification

BNC Output					
Parameter	Conditions	Min	Typ	Max	Unit
Output voltage		TBD	10		V _{peak}
Accuracy			TBD	±0.2	%
Offset Voltage (absolute)	w Offset-Compensation		400	TBD	µV
	w/o Offset-Compensation		25	TBD	mV
Differential output impedance			TBD		Ohm
Short circuit duration			infinite		s
Output noise	BW = 20 kHz		11	TBD	µV _{rms}
THD @ 1kHz	F _s = 48 – 192 kHz, 2 V _{rms}		-90	TBD	dB
Lower Frequency limit (-3 dB)	Offset-Compensation active	TBD	1.1	TBD	Hz

BNC Inputs					
Parameter	Conditions	Min	Typ	Max	Unit
IEPE supply current			7.3	TBD	mA
Max IEPE voltage		28			V
Accuracy			TBD	±0.2	%

Sensitivity range (gain-controlled)	Input voltage for 0 dBFs	0.2		15.7	V_{peak}
Noise level (@ nom sensitivity)	Shorted input, BW = 20 kHz		10	TBD	μV
Nominal sensitivity (0 dB)	Input voltage for 0 dBFs		3.9	TBD	V_{peak}
SNR ⁴	sinusoidal signal, BW = 20 kHz		108	TBD	dB
THD @ 1 kHz (all Sample-Rates)	-1 dBFs		-88	TBD	dB
Input impedance			10	TBD	kOhm
Input capacitance			15		pF
Lower Frequency limit (-3 dB)	AC-coupling enabled	TBD	1.6	TBD	Hz
Upper Frequency limit	Fs = 48 kHz, +/-0.1 dB		19		kHz
	Fs = 96 kHz, +/-0.3 dB		34		
	Fs = 192 kHz, -1 dB		49		
	Fs = 192 kHz, -3 dB		66		

LEMO Inputs (Laser)					
Parameter	Conditions	Min	Typ	Max	Unit
Laser supply voltage		TBD	24	TBD	V
Laser supply current	short-circuit-proof (infinite time)			0.5	A
Accuracy			TBD	± 0.2	%
Common-Mode-Range			± 14		V_{peak}
Sensitivity range (gain-controlled)	Input voltage for 0 dBFs	0.2		15.7	V_{peak}
Noise level (@ nom sensitivity)	Shorted input, BW = 20 kHz		36	TBD	μV
Nominal sensitivity (0 dB)	Input voltage for 0 dBFs		15.7	TBD	V_{peak}
SNR ⁴	sinusoidal signal, BW = 20 kHz		109	TBD	dB
THD @ 1 kHz (all Sample-Rates)	-6 dBFs (5.5 V_{rms})		-88	TBD	dB
CMRR ³	0 R mismatch ¹		70	TBD	dB
	10 R mismatch ²		60	TBD	
Input impedance	differential		20	TBD	kOhm
Input capacitance			15		pF
Upper Frequency limit	Fs = 48 kHz, +/-0.1 dB		19	TBD	kHz
	Fs = 96 kHz, +/-0.3 dB		34	TBD	
	Fs = 192 kHz, -1 dB		49	TBD	
	Fs = 192 kHz, -3 dB		66	TBD	

Find explanations for symbols at:

<http://www.klippel.de/know-how/literature.html>

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