DL Instruments, LLC

233 Cecil A. Malone Drive, Ithaca, New York 14850
Phone 607-277-8498 FAX 607-277-8499
http://www.dlinstruments.com

IPB0132

DL Instruments manufactures two line-powered, benchtop, current preamplifiers: the Model 1211 and the Model 1212.

The Model 1211 current preamplifier has many features that are not available with the Model 1212:

Gated operation
Calibrated rise time 10 microsecond to 1 second
Calibrated current suppression 10^{-3} to 10^{-10} Amps
Detector bias to 5 volts (adjustable)
600 Ω output, 50 Ω output (25 milliamps), Unity gain (converter) output

Another difference between the 1211 and 1212 is that the 1212 is optimized to have the widest bandwidth consistent with standard lock-ins, yet not be over peaked when operated with moderate capacitance transducers such as small area pin photodiodes. The 1211, on the other hand, is more highly damped to work with high capacitance input devices such as photomultipliers, etc. Both units allow for battery operation; the 1211 has the batter pack (Option 10) as a standard feature; the 1212 has an internal, sealed, lead-acid, rechargeable battery as a standard feature.

	1211	1212
Sensitivity Range (A/V)	10-2 to 10-12	10-4 to 10-9
Bandwidth @ 10^{-4} A/V	60 kHz	200 kHz
10^{-5} A/V	55 kHz	180 kHz
10^{-6} A/V	32 kHz	100 kHz
10^{-7} A/V	20 kHz	45 kHz
10^{-8} A/V	15 kHz	12 kHz
10^{-9} A/V	4 kHz	4 kHz
Input Noise (A/√Hz)		
@ 10^{-4} A/V	7.5×10^{-12}	3×10^{-12}
10^{-5} A/V	9×10^{-13}	5×10^{-13}
10^{-6} A/V	2×10^{-13}	1.3×10^{-13}
10^{-7} A/V	5.5×10^{-14}	4.1×10^{-14}
10^{-8} A/V	1.4×10^{-14}	1.3×10^{-14}
10^{-9} A/V	4.3×10^{-15}	5×10^{-15}
10^{-10} A/V	2.1×10^{-15}	----

The above bandwidth and noise comparisons are mode with the Model 1211 in the x1 mode (no output post-gain or post-attenuation).