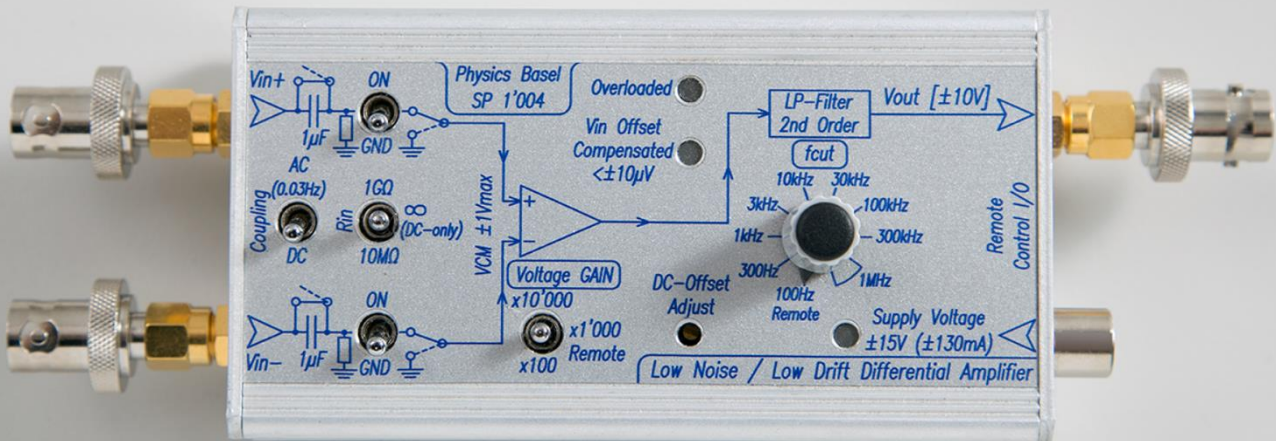




Basel Precision Instruments



Low Noise Low Drift Differential Amplifier

low noise, true differential, feedback stabilized

Model	SP1004
Input Voltage	stable, low drift and low noise input voltage offset compensated
	noise: 6.5 nV/sqrt(Hz) @ 1 Hz 1.8 nV/sqrt(Hz) @ 10 Hz 1.0 nV/sqrt(Hz) @ $f > 1$ kHz
	feedback stabilized drift $\leq 0.3 \mu\text{V/K}$ @25°C
Input Current	stable and low input current noise
	noise: 8 fA/sqrt(Hz) @10 Hz & ∞ input resistor 12 fA/sqrt(Hz) @1 kHz & ∞ input resistor
Gain	three decades 10^2 to 10^4 remote controllable
Filtering	integrated low-pass-filter 100 Hz to 1 MHz remote controllable
Bandwidth	1 MHz maximum
Input Coupling	DC or AC (0.03 Hz)
Input Resistor	selectable: 10 M Ω , 10 G Ω or ∞ (DC only)
Common-Mode	± 1 V input common-mode voltage range high common-mode rejection ratio: > 100 dB @100 Hz
Dimensions	small size, low weight, mountable directly on breakout box 122 x 55 x 35 mm, 290 gr

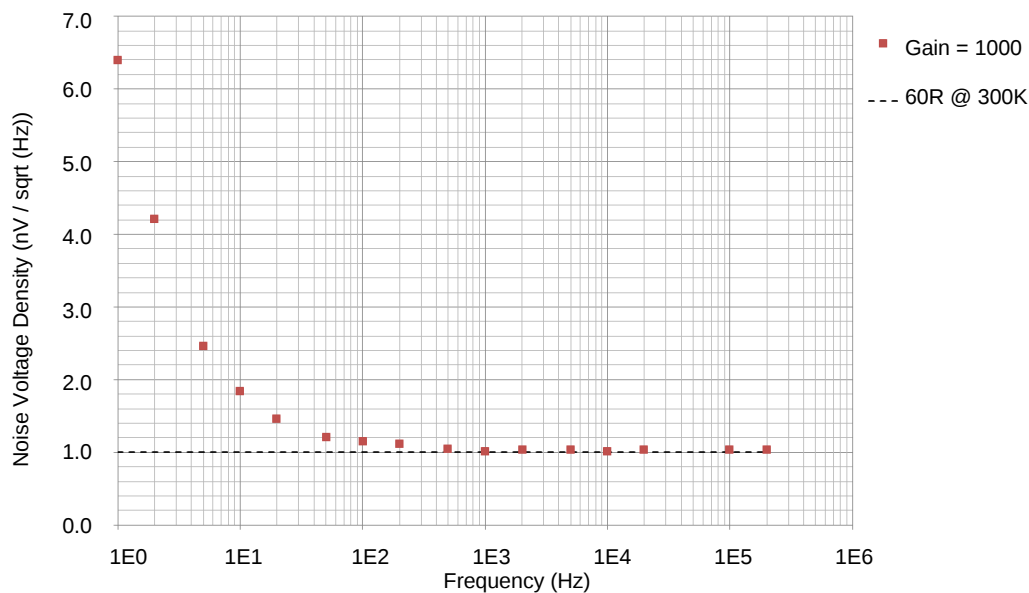
Typical specs, details at <http://baspi.ch>.

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Applications

- Sensitive voltage measurements at cryogenic temperatures
- Low drift DC differential voltage measurements
- Precise DC and AC current measurements by using a shunt-resistor
- General purpose DC and AC low noise laboratory preamplifier

Measured Input Voltage Noise Density



Input Current Noise

Selected Input Resistance (Ω)	Current Noise (fA/sqrt(Hz)) @ 10 Hz / 30°C	Current Noise (fA/sqrt(Hz)) @ 1 kHz / 30°C	Theoretical Limit (fA/sqrt(Hz)) @ 30°C
∞ (DC only)	8	12	3.1
1 G	8	14	5.1
10 M	43	48	41.1