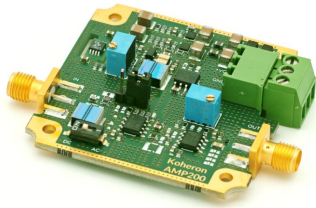


Low-noise voltage preamplifier

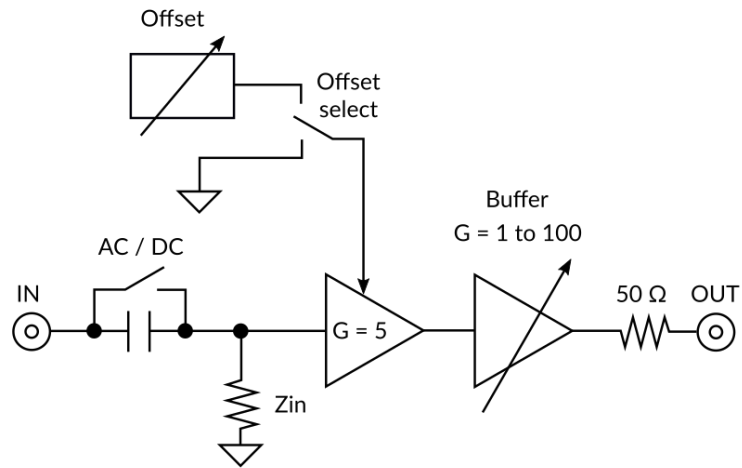


Koheron AMP200 is a low-noise (down to $2.4 \text{ nV}/\sqrt{\text{Hz}}$), wide-bandwidth (up to 13 MHz) voltage preamplifier. Thanks to the high-impedance input ($10 \text{ k}\Omega$ or $1 \text{ M}\Omega$) many sensors can be directly interfaced to the amplifier. The input can be either AC or DC coupled and the input offset voltage is adjustable over a $\pm 100 \text{ mV}$ range. A strong adjustable-gain output buffer is capable of driving up to $\pm 2.2 \text{ V}$ across a 50Ω load.

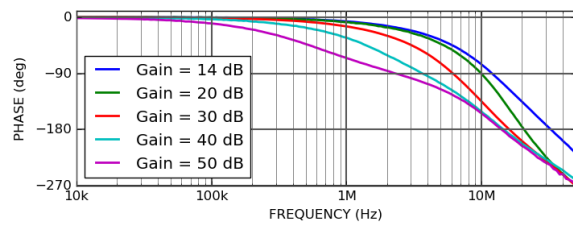
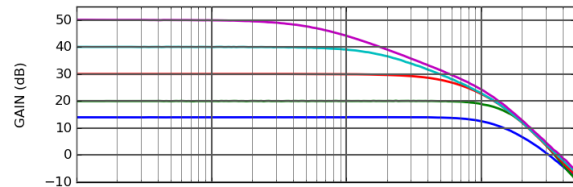
Specifications

	AMP200-10k	AMP200-1M
Gain, Bandwidth		
Gain range	5 to 500	5 to 500
3 dB bandwidth (gain = 10)	13 MHz	8 MHz
Input		
Input impedance	10 k Ω	1 M Ω
Front-end amplifier	Bipolar junction transistor	Junction-gate field-effect transistor
Input-referred voltage noise (10 kHz, 50 Ω input)	2.4 nV/ $\sqrt{\text{Hz}}$	4.7 nV/ $\sqrt{\text{Hz}}$
Input offset adjustment range	± 100 mV	± 100 mV
Coupling	AC or DC	AC or DC
AC cutoff frequency at 3 dB	0.72 Hz	1.59 Hz
Input voltage range	-1.7 V to 1.7 V	-1.7 V to 1.7 V
Output		
Output impedance	50 Ω	50 Ω
Slew rate (high impedance)	60 V/ μs	60 V/ μs
Slew rate (50 Ω)	10 V/ μs	10 V/ μs
Output voltage range (high impedance)	-8.5 V to 8.5 V	-8.5 V to 8.5 V
Output voltage range (50 Ω)	-2.2 V to 2.2 V	-2.2 V to 2.2 V
Power supply		
Positive supply voltage	12 V	12 V
Negative supply voltage	-12 V	-12 V
Supply current	100 mA per rail	100 mA per rail
Quiescent current	22 mA per rail	22 mA per rail
Other		
Outside dimensions	66 mm x 50 mm x 13 mm	66 mm x 50 mm x 13 mm
Weight	20 g	20 g
Operating temperature	-20 $^{\circ}\text{C}$ to 70 $^{\circ}\text{C}$	-20 $^{\circ}\text{C}$ to 70 $^{\circ}\text{C}$

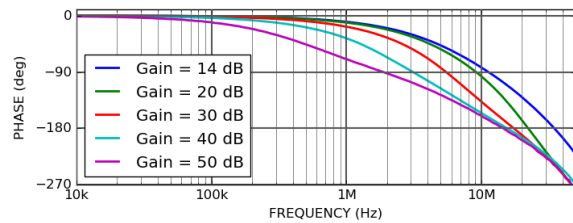
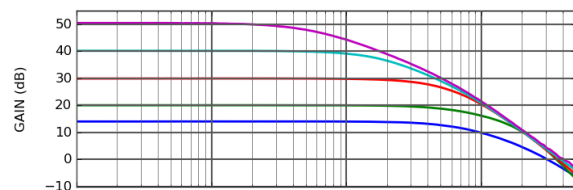
Functional diagram



Frequency response



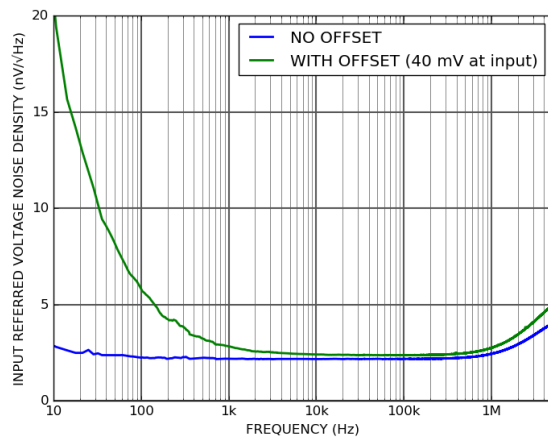
10 kΩ input frequency response



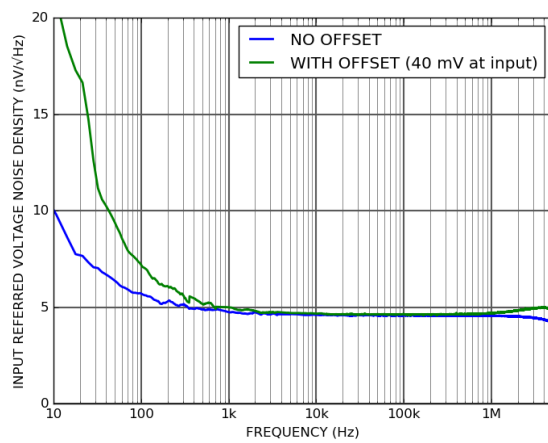
1 MΩ input frequency response

Input noise

Input-referred voltage noise measured for a gain of 25 with DC-coupled 50 Ω terminated input.



10 k Ω input noise



1 M Ω input noise

Ordering codes

- AMP200-10k: Input impedance 10 kOhm
- AMP200-1M: Input impedance 1 MOhm