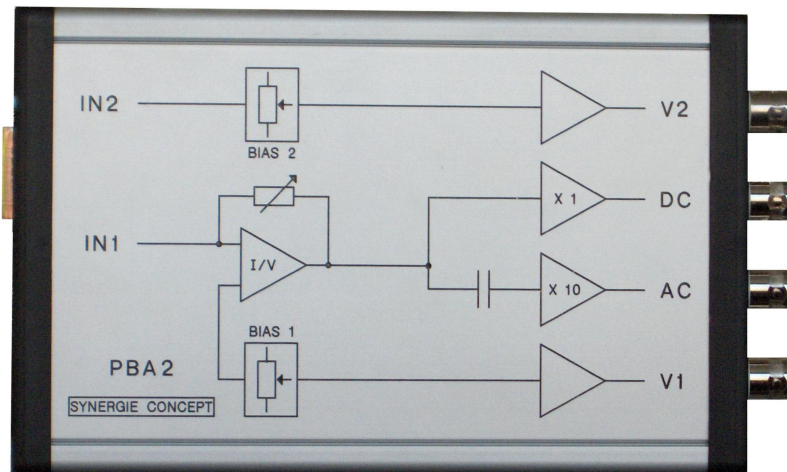
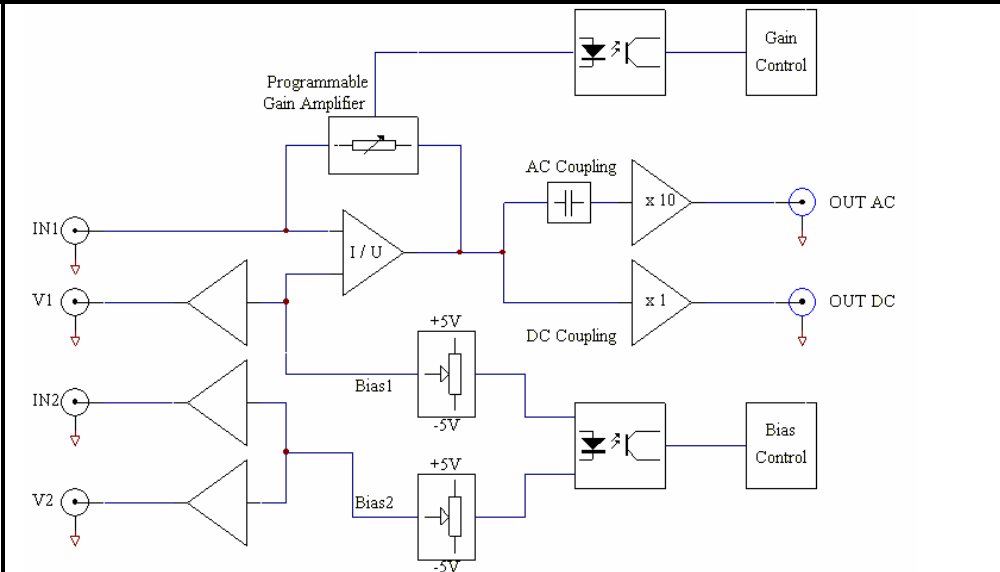


Programmable Gain and Bias Amplifier Low noise I/V amplifier




Features	<ul style="list-style-type: none"> • Programmable Gain from 1×10^3 to 1×10^8 V/A • Bandwidth DC / 1 Hz... 500 kHz • Two Programmable Voltage Outputs for Biasing
Applications	<ul style="list-style-type: none"> • Low Noise Current Amplifier
Block Diagram	



		Programmable Gain and Bias Amplifier						
Specifications	Test Conditions	T_a = 25°C						
Gain	Transimpedance Gain Accuracy	1 x 10 ³ ... 1 x 10 ⁸ V/A ± 1%						
Frequency Response	Lower Cut-Off Frequency Upper Cut-Off Frequency Gain Flatness	DC / 0.5 Hz Up to 500 kHz (See Table Below) ± 0.1 dB						
Input	Equ. Input Noise Voltage Input Bias Current	4 nV / √Hz (@ 100 Hz) 1 pA typ. (maximum 3 pA)						
Performance depending on Gain Setting	Sensitivity (A/V)	DC	10 ⁻²	10 ⁻³	10 ⁻⁴	10 ⁻⁵	10 ⁻⁶	10 ⁻⁷
	Sensitivity (A/V)	AC	10 ⁻³	10 ⁻⁴	10 ⁻⁵	10 ⁻⁶	10 ⁻⁷	10 ⁻⁸
	Upper Cut-Off Frequency (-3dB)		500 kHz	480 kHz	510 kHz	290 kHz	138 kHz	33 kHz
	Equ Input Noise Current (A/√Hz)		200 pA	98.2 pA	10.1 pA	1.1 pA	168 fA	44.9 fA
	Max. biasing Current (±) Max. Offset Voltage		10 mA 100 μA	10 mA 10 μA	1 mA 1 μA	100 μA 0.1 μA	10 μA 10 nA	0.1 μA 1 nA
Output	Output Voltage Output Voltage for Biasing Output Impedance Maximum Output Current	± 10 V (@ 10 kΩ Load) ± 5 V (0.1% Precision) 50 Ω ± 20 mA						
Digital Control	Control Input Voltage Range Control Input Current	Low : - 0.8 V... + 1.2 V, High : 2.3 V...+ 5.25 V 1.5 mA @ 0 V, 4.5 mA @ + 5 V						
Power Supply	Supply Voltage Supply Current max Stabilized Power Supply Output	± 14 V + 100 mA / - 100 mA ± 12 V, maximum 100 mA, + 5 V, maximum 40 mA						
Case	Weight	380 gr.						
Temperature Range	Storage Temperature Operating Temperature	- 40 °C + 100 °C 0 °C + 60 °C						
Absolute Max. Ratings	Control Input Voltage Power Supply Voltage	+ 5.25 V ± 15 V						



Programmable Gain and Bias Amplifier

Connectors	<p>Input BNC, Isolated</p> <p>Output BNC isolated</p> <p>Power Supply LEMO Series 0S, 3-pin fixed Socket Pin 1 : - 15 V Pin 2 : GND Pin 3 : + 15 V</p>  <p>Control Port Sub-D 15-pin, female, Quality Class 2 Pin 1 : Potentiometer Low F Pin 2 : Potentiometer High R Pin 3 : Incrementation Input 1 G Pin 4 : Incrementation Input 2 H Pin 5 : Up / Down D Pin 6 : Selection Gain C C Pin 7 : Selection Gain B B Pin 8 : Selection Gain A A Pin 9 : + 5 V Pin 10 : Bias 2 Sens +/- Pin 11 : Bias 1 Sens +/- Pin 12 : NC Pin 13 : NC Pin 14 : NC Pin 15 : GND</p>



Programmable Gain and Bias Amplifier

Remote Control Operation	Gain Setting	A	B	C	Gain (DC)	Gain (AC)
		OFF	OFF	OFF	No selection	No selection
ON	OFF	OFF	10^2	10^3		
OFF	ON	OFF	10^3	10^4		
ON	ON	OFF	10^4	10^5		
OFF	OFF	ON	10^5	10^6		
ON	OFF	ON	10^6	10^7		
OFF	ON	ON	10^7	10^8		

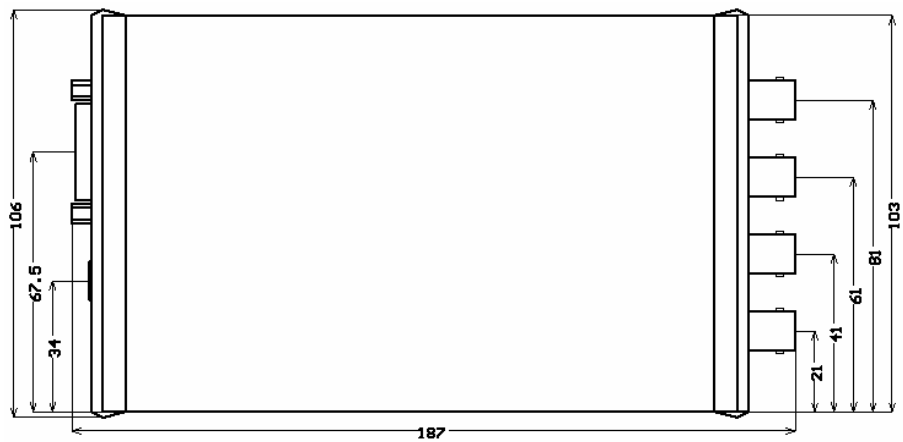
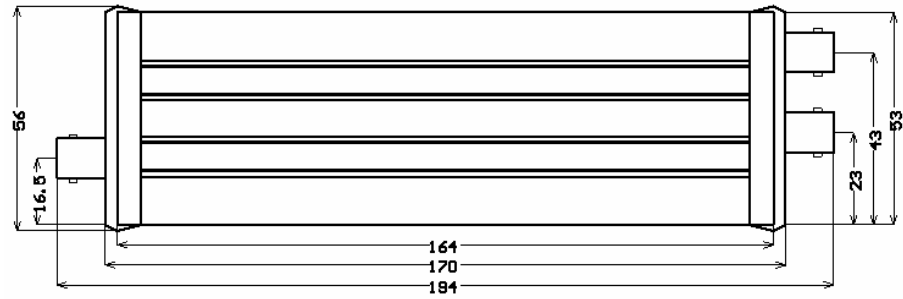
Bias Voltage Setting	U/ D	CS / PL	CS / PH	INC1	INC2	Mode	Incrementation Value
	ON	ON	ON			Stand By	
OFF	ON	OFF			Incrementation Input 1	- 50,5 mV	
OFF	ON	OFF			Incrementation Input 2	- 50,5 mV	
OFF	OFF	ON			Incrementation Input 1	- 5,05 mV	
OFF	OFF	ON			Incrementation Input 2	- 5,05 mV	
ON	ON	OFF			Incrementation Input 1	+ 50,5 mV	
ON	ON	OFF			Incrementation Input 2	+ 50,5 mV	
ON	OFF	ON			Incrementation Input 1	+ 5,05 mV	
ON	OFF	ON			Incrementation Input 2	+ 5,05 mV	

CS Potentiometer Low	CS / PL
CS Potentiometer Hight	CS / PH
Incrementation Input 1	INC 1
Incrementation Input 2	INC 2
Up / Down	U / D

Bias Sens +/-	Logic Level	Mode
Bias 1	Low (0V)	negative polarization
Bias 1	Hight (5V)	positive polarization
Bias 2	Low (0V)	negative polarization
Bias 2	Hight (5V)	positive polarization

Programmable Gain and Bias Amplifier

Dimensions



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