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AD620 - Low Drift, Low Power Instrumentation Amp with Set Gains of 1 to 10000

Data Sheets

[Rev G, 01/2005 \(pdf, 801K\)](#)
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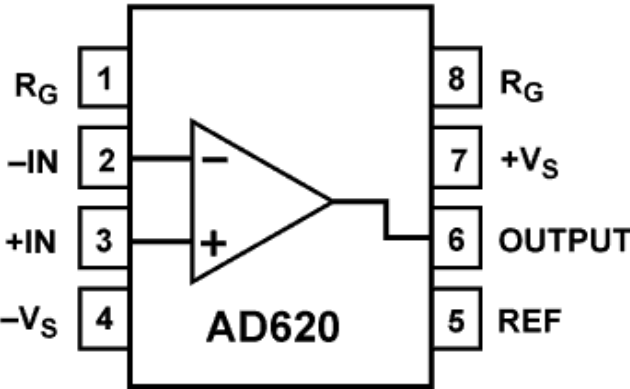
Product Description

The AD620 is a low cost, high accuracy instrumentation amplifier that requires only one external resistor to set gains of 1 to 10,000. Furthermore, the AD620 features 8-lead SOIC and DIP packaging...[More](#)

Specifications

Single/Dual Supply	Dual
Supply Voltage	$\pm 18V$
Gain Setting Method	Resistor
Gain Range	1000
BW	800kHz
CMRR	93dB
Vnoise RTI	6 μV p-p
Temp Range	-55 to +125
Gain Error	+0.3%
Supply Current	1.3mA
Package	DIP, SOIC
Vos	30 μV
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Pin Diagram



TOP VIEW

[Symbols and Footprints](#)

Features

- EASY TO USE**
 - Gain Set with One External Resistor (Gain Range 1 to 10,000)
 - Wide Power Supply Range ($\pm 2.3 V$ to $\pm 18 V$)
 - Higher Performance than Three Op Amp IA Designs
 - Available in 8-Lead DIP and SOIC Packaging
 - Low Power, 1.3 mA max Supply Current
- LOW NOISE**
 - 9 nV/ $\sqrt{Hz}$, @ 1 kHz, Input Voltage Noise
 - 0.28 μV p-p Noise (0.1 Hz to 10 Hz)
- EXCELLENT DC PERFORMANCE (B GRADE)**
 - 50 μV max, Input Offset Voltage
 - 0.6 $\mu V/^{\circ}C$ max, Input Offset Drift
 - 1.0 nA max, Input Bias Current
 - 100 dB min Common-Mode Rejection Ratio (G = 10)
- EXCELLENT AC SPECIFICATIONS**
 - 120 kHz Bandwidth (G = 100)
 - 15 μs Settling Time to 0.01%

New Instrumentation Amplifiers

[AD8220](#) - Rail to Rail

Output JFET Input

Instrumentation

Amplifier

[AD8553](#) - 1.8 V to 5 V

Auto-Zero, In-Amp

with Shutdown

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Signal Chains

[Interactive Signal](#)
[Chains](#)

Design Tools

AD620 SABER Macro-Model

[AD620 SABER Macro-Model Conv.](#)

[10/00](#)

[Analog Bridge Wizard](#)

The Analog Bridge Wizard recommends amplifiers and ADC's for your bridge application. Find out which op-amp or in-amp is best for your design, and view the error budget analysis for that solution.

Price, Packaging, and Availability

 [Print Table](#)

AD620 Model Options

Model	Status	Package	Pins	Temp Range		Available	RoHS Compliant	Samples Cart	
AD620ACHIPS	Prodn	CHIPS OR DIE	-	Ind		1/6/2006		-	Add to Cart
AD620AN	Prodn	8 ld PDIP	8			12/2/2005	N	Add to Cart	Add to Cart
AD620ANZ	Prodn	8 ld PDIP	8	Ind		3/31/2006	Y	Add to Cart	Add to Cart
AD620AR	Prodn	8 ld SOIC	8	Ind		11/25/2005	N	Add to Cart	Add to Cart
AD620AR-REEL	Prodn	8 ld SOIC	8	Ind		11/25/2005	N	-	Add to Cart
AD620AR-REEL7	Prodn	8 ld SOIC	8	Ind		11/25/2005	N	-	Add to Cart
AD620ARZ	Prodn	8 ld SOIC	8	Ind		4/7/2006	Y	Add to Cart	Add to Cart
AD620ARZ-REEL	Prodn	8 ld SOIC	8	Ind		12/23/2005	Y	-	Add to Cart
AD620ARZ-REEL7	Prodn	8 ld SOIC	8	Ind		12/23/2005	Y	-	Add to Cart
AD620BN	Prodn	8 ld PDIP	8			12/23/2005	N	Add to Cart	Add to Cart
AD620BNZ	Prodn	8 ld PDIP	8	Ind		6/23/2006	Y	Add to Cart	Add to Cart
AD620BR	Prodn	8 ld SOIC	8			12/23/2005	N	Add to Cart	Add to Cart
AD620BR-REEL	Prodn	8 ld SOIC	8			12/30/2005	N	-	Add to Cart
AD620BR-REEL7	Prodn	8 ld SOIC	8			5/5/2006	N	-	Add to Cart
AD620BRZ	Prodn	8 ld SOIC	8	Ind		12/16/2005	Y	Add to Cart	Add to Cart
AD620BRZ-R7	Prodn	8 ld SOIC	8	Ind		-	Y	-	Add to Cart
AD620BRZ-RL	Prodn	8 ld SOIC	8	Ind		1/6/2006	Y	-	Add to Cart
AD620SQ/883B	Prodn	8 ld CerDIP	8			11/25/2005	N	-	Add to Cart

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Part#	Single/ Dual Supply	Voltage Supply (Vmin)	Voltage Supply (Vmax)	Supply Current	Gain Setting Method	CMRR @ 60 Hz	Bandwidth G=10 (kHz typ)	Vnoise RTI 1- 10 Hz μ Vp-p	Input Offset Voltage (μ V)	Output Vos (mV)	Gain Range (min to max)	Temperature Range	
AD627	Single/ Dual	+2.2	± 18	0.06	Resistor	77	40	1.2	50	0.5	1,000	-40 to +85	_____
AD522	Dual	± 5	± 18	10	Resistor	90	300	15	100	-	1,000	-55 to +125	_____**
AD628	Single/ Dual	± 5	± 18	1.6	Resistor	75	440	15	1500	-	100	-40 to +85	_____
AD526	Dual	± 4.5	± 16.5	14	Software	n/a	n/a	9	700	n/a	16	-	_____
AD629	Dual	± 2.5	± 18	1	fixed	77	500	15	1000	n/a	1	-40 to +85	_____
AD621	Dual	± 2.3	± 18	1.3	Pin	93	800	6	35	0.04	100	-55 to +125	_____
AD8221	Single/ Dual	± 2.3	± 18	1	Resistor	80	562	2	60	0.3	1,000	-	_____
AD623	Single/ Dual	+2.7	± 6	0.55	Resistor	90	100	3	25	0.2	1,000	-40 to +85	_____
AD8225	Dual	± 1.7	± 18	1.2	fixed	80	900	1.5	50	-	5	-40 to +85	_____
AD625	Dual	± 6	± 18	5	Resistor	90	400	4	200	5	10,000	-	_____
AD8230	Single/ Dual	± 4	+16	2.7	Resistor	110	2	3	10	-	1,000	-40 to +125	_____
AD524	Dual	± 6	± 18	5	Pin	90	400	15	250	5	1,000	-	_____
AD622	Dual	± 2.6	± 18	0.9	Resistor	86	800	6	60	0.6	1,000	-40 to +85	_____
AD624	Dual	± 6	± 18	5	Pin	90	400	10	200	5	1,000	-	_____
AD626	Single/ Dual	± 2.5	± 6	2	Pin	66	100	2	500	n/a	90	-40 to +85	_____
AD620	Dual	± 2.3	± 18	1.3	Resistor	93	800	6	30	0.4	1,000	-55 to +125	_____
AMP01	Dual	± 4.5	± 18	4.8	Resistor	95	100	13	100	6	10,000	-	_____
AMP02	Dual	± 4.5	± 18	6	Resistor	115	300	1.2	200	8	1,000	-	_____
AMP03	Dual	± 5	± 15	2.5	fixed	80	3000	10	10	n/a	1	-	_____
AMP04	Single/ Dual	+5	± 18	0.7	Resistor	75	100	7	300	3	1,000	-	_____