

ULTRA LOW NOISE TRANSIMPEDANCE AMPLIFIER

- ULTRA LOW NOISE - DOWN TO 7fA/√Hz
- HIGH GAIN - UP TO 1GV/A
- BANDWIDTH - FROM 120Hz TO 150kHz
- ACCEPTS CURRENT SOURCE INPUTS



DESCRIPTION:

The **311 Series** are state-of-the-art precision amplifiers designed for current source input applications in which high gain and low noise are required.

SPECIFICATIONS:

Input

Impedance Virtual ground, AC coupled
 Capacitance See graphs on reverse for performance vs. capacitance. Indicate value of input capacitance (add - ___pF to part number)

Output

Load $\geq 50\Omega$
 Swing 16V pk-pk into 1k Ω
 7V pk-pk into 50 Ω (-1 and -2)
 12V pk-pk into 50 Ω (-3)

Gain

Trimpot adjustable (-3 only)

Polarity

Inverting (add -INV to part number)
 Non-Inverting (add -NI to part number)

Power

$\pm 15\text{VDC}$ at 30mA typical (no load)

Temperature

0° to 70°C

Connections

Input Pins
 Output BNC
 Power Filter feed-thru pins and ground lug
 Bias Pin decoupled with 0.1 μF , 100V capacitor. (See table on reverse.)

Size

3.12" x 1.50" x 1.09"

Weight

3.2 ounces



Specifications subject to change without notice.

APPLICATIONS:

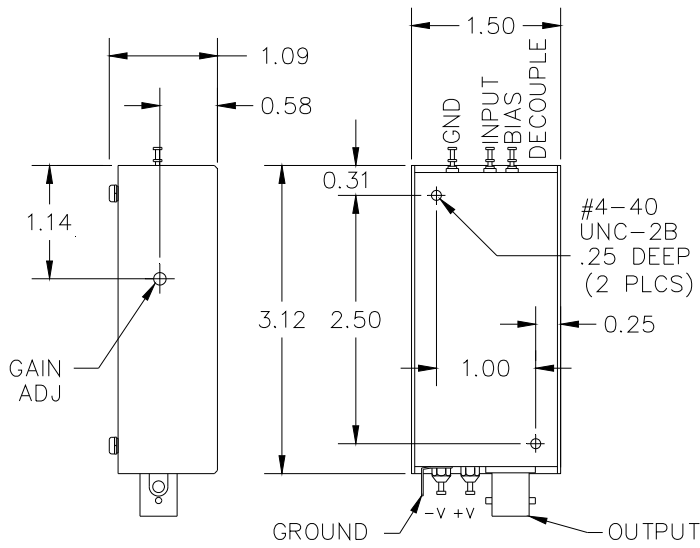
Ultra Low Noise, Low and Medium Bandwidth Transimpedance Amplifier for Detectors and Transducers

MODEL NUMBER

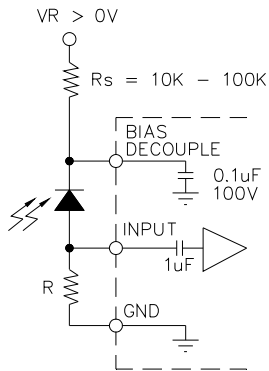
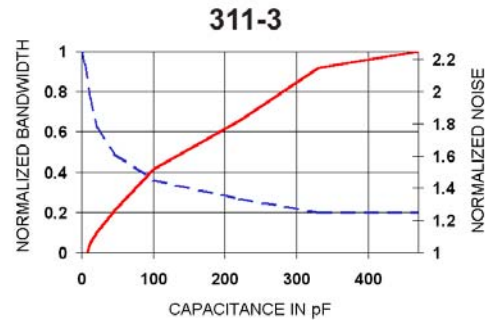
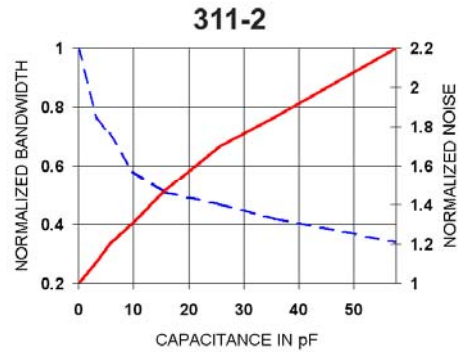
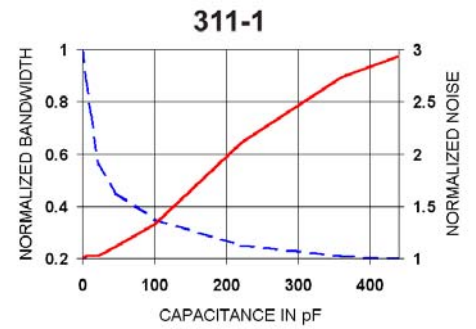
		GAIN		
		1GV/A	100MV/A	10-100MV/A
Bandwidth ⁽¹⁾ ± 20%	≤120Hz to 2kHz	311-1	-----	-----
	≤120Hz to 10kHz	-----	311-2	-----
	≤120Hz to 150kHz	-----	-----	311-3
	≤120Hz to 2MHz	-----	-----	-----
Noise ⁽¹⁾ ± 20%	Current Noise (Open circuit input)	7fA/√Hz	20fA/√Hz	0.58pA/√Hz

⁽¹⁾ With 1pF input capacitance. See graphs for performance with other values.

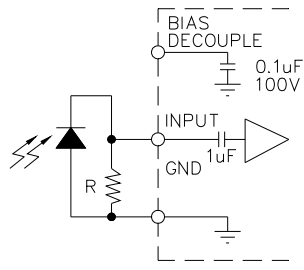
Typical Part Number: **311-1-INV-1pF =** Bandwidth: ≤120Hz to 2kHz
 Gain: 1GV/A
 Polarity: Inverting
 Noise: 7fA/√Hz
 Input Capacitance: 1pF



DIMENSIONS ARE IN INCHES



PHOTOCONDUCTIVE MODE



PHOTOVOLTAIC MODE

TYPICAL PHOTODETECTOR APPLICATIONS