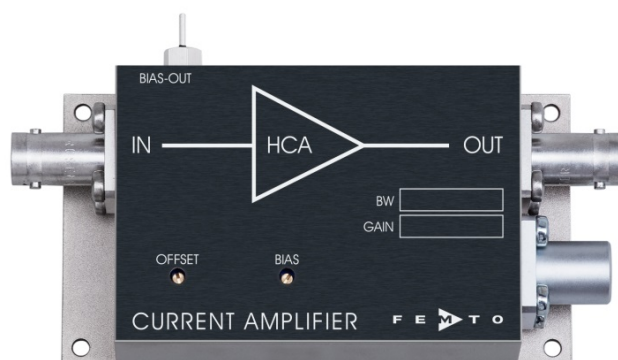


High-Speed Current Amplifier



<p>Features</p>	<ul style="list-style-type: none"> • Bandwidth and Frequency Response Independent of Detector Capacitance (up to 25 pF) • Low Noise 340 fA/√Hz Equivalent Input Noise Current • Bandwidth DC ... 2 MHz • Transimpedance (Gain) 1 x 10⁶ V/A • Protection against ± 3.5 kV Transients 	
<p>Applications</p>	<ul style="list-style-type: none"> • Photodiode and Photomultiplier Amplifier • Spectroscopy • Charge Amplifier • Ionisation Detectors • Preamplifier for Lock-Ins, A/D Converters, etc. 	
<p>Specifications</p>	<p>Test Conditions</p> <p>Gain</p> <p>Frequency Response</p> <p>Input</p> <p>Output</p> <p>Bias Output</p>	<p>$V_s = \pm 15\text{ V}$, $T_a = 25^\circ\text{C}$</p> <p>Transimpedance 1 x 10⁶ V/A (@ 50 Ω load) Gain Accuracy ± 1 %</p> <p>Lower Cut-Off Frequency DC Upper Cut-Off Frequency (- 3 dB) 2 MHz Rise / Fall Time (10 % - 90 %) 180 ns Gain Flatness ± 0.3 dB</p> <p>Equ. Input Noise Current 340 fA/√Hz (@ 100 kHz) Equ. Input Noise Voltage 6 nV/√Hz (@ 100 kHz) Input Bias Current 5 pA typ. Input Bias Current Drift Factor 1.7 / 10 K Offset Current Compensation ± 2.7 μA adjustable by offset trimpot Input Current Range ± 1.5 μA (for linear amplification) Input Offset Voltage 2 mV DC Input Impedance 50 Ω (virtual) // 5 pF</p> <p>Output Voltage Range ± 1.5 V (@ 50 Ω load) for linear operation and low harmonic distortion Output Impedance 50 Ω (terminate with 50 Ω load for best performance)</p> <p>Bias Output Voltage Range ± 12 V, adjustable by bias trimpot Bias Output Impedance 10 kΩ // 1 μF</p>

High-Speed Current Amplifier

Specifications (continued)

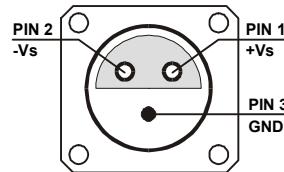
Power Supply	Supply Voltage	$\pm 15\text{ V}$
	Supply Current	$\pm 50\text{ mA typ.}$ (depends on operating conditions, recommended power supply capability minimum $\pm 150\text{ mA}$)
Case	Weight	210 g (0.5 lbs)
	Material	AlMg4.5Mn, nickel-plated
Temperature Range	Storage Temperature	$-40 \dots +100\text{ }^\circ\text{C}$
	Operating Temperature	$0 \dots +60\text{ }^\circ\text{C}$

Absolute Maximum Ratings

Input Voltage	$\pm 5\text{ V}$
Input Voltage Transient	$\pm 3.5\text{ kV}$ (pulsewidth 10 ns)
Power Supply Voltage	$\pm 22\text{ V}$

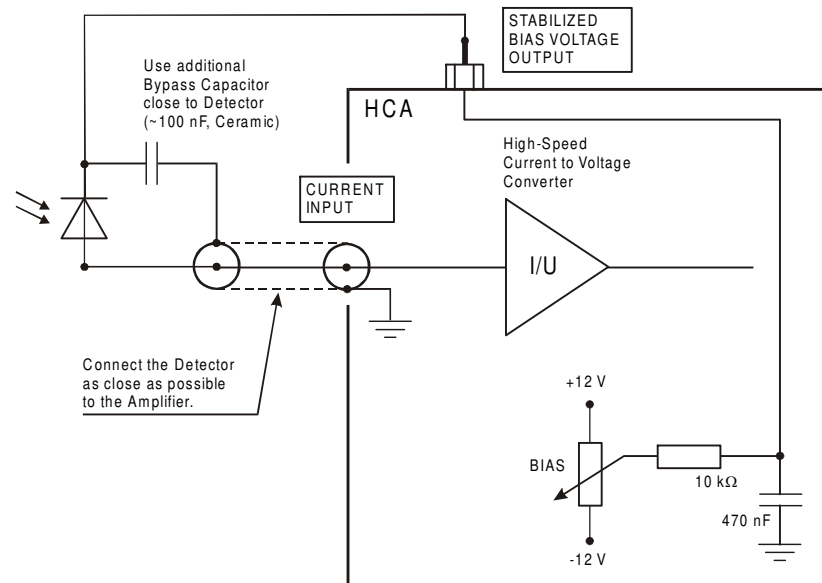
Connectors

Input	BNC
Output	BNC
Power Supply	LEMO series 1S, 3-pin fixed socket
	Pin 1: $+15\text{ V}$
	Pin 2: -15 V
	Pin 3: GND



Application Diagrams

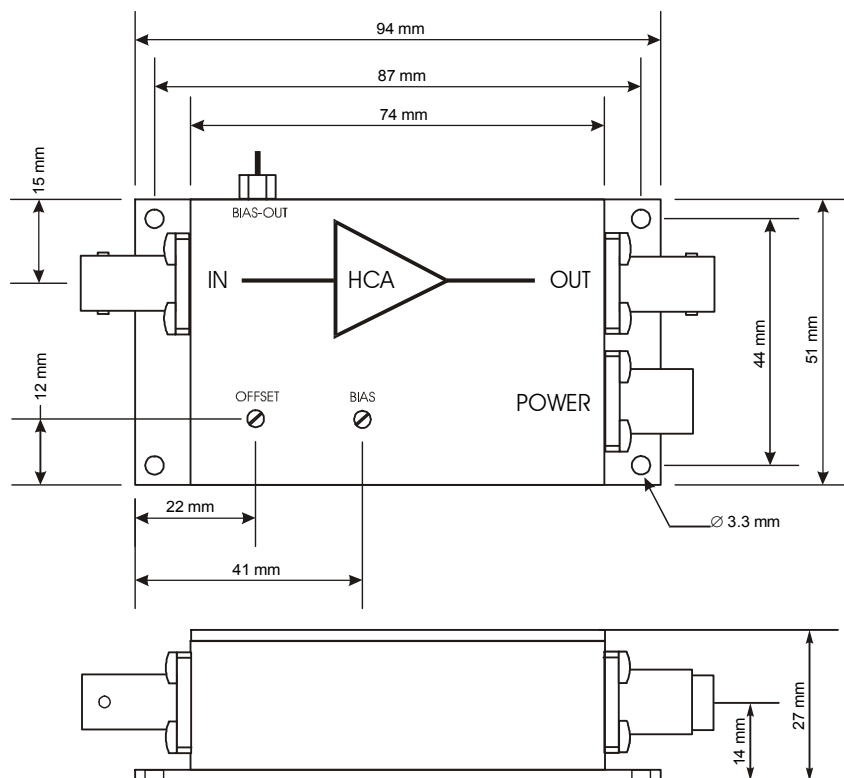
Photo Detector Biasing in Photoconductive Mode:
Best choice for high speed applications and optimum signal to noise performance.



AZ01-0201-20

High-Speed Current Amplifier

Dimensions



DZ01-0201-22

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