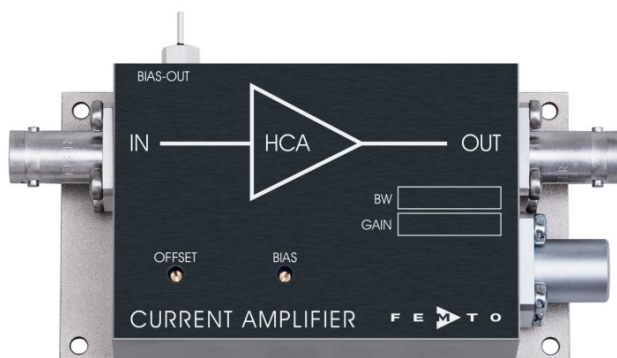


High-Speed Current Amplifier



Features	• Bandwidth and Frequency Response Independent of Detector Capacitance (up to 30 pF) • Low Noise 3.7 pA/√Hz Equivalent Input Noise Current • Bandwidth DC ... 40 MHz • Transimpedance (Gain) 1×10^5 V/A • Protection against ± 3.5 kV Transients	
Applications	• Photodiode and Photomultiplier Amplifier • Spectroscopy • Charge Amplifier • Ionisation Detectors • Preamplifier for Lock-Ins, A/D Converters, etc.	
Specifications	Test Conditions	$V_s = \pm 15$ V, $T_a = 25^\circ\text{C}$
Gain	Transimpedance	1×10^5 V/A (@ 50 Ω load)
	Gain Accuracy	± 1 %
Frequency Response	Lower Cut-Off Frequency	DC
	Upper Cut-Off Frequency (- 3 dB)	40 MHz
	Rise / Fall Time (10 % - 90 %)	10 ns
	Gain Flatness	± 0.3 dB
Input	Equ. Input Noise Current	3.7 pA/√Hz (@ 100 kHz)
	Equ. Input Noise Voltage	0.8 nV/√Hz (@ 100 kHz)
	Input Bias Current	18 μ A typ.
	Input Bias Current Drift	0.8 nA / K
	Offset Current Compensation	± 20 μ A adjustable by offset trimpot
	Input Current Range	± 15 μ A (for linear amplification)
	Input Offset Voltage	3 mV
	DC Input Impedance	50 Ω (virtual) // 5 pF
Output	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)
Bias Output	Bias Output Voltage Range	± 12 V, adjustable by bias trimpot
	Bias Output Impedance	10 k Ω // 1 μ F

High-Speed Current Amplifier

Specifications (continued)

Power Supply

Supply Voltage ± 15 V
 Supply Current ± 70 mA typ.
 (depends on operating conditions, recommended power supply capability minimum ± 150 mA)

Case

Weight 210 g (0.5 lbs)
 Material AlMg4.5Mn, nickel-plated

Temperature Range

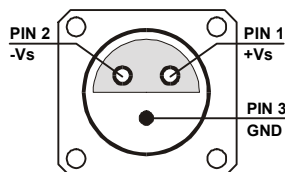
Storage Temperature $-40 \dots +100$ °C
 Operating Temperature $0 \dots +60$ °C

Absolute Maximum Ratings

Input Voltage ± 5 V
 Input Voltage Transient ± 3.5 kV (pulsewidth 10 ns)
 Power Supply Voltage ± 22 V

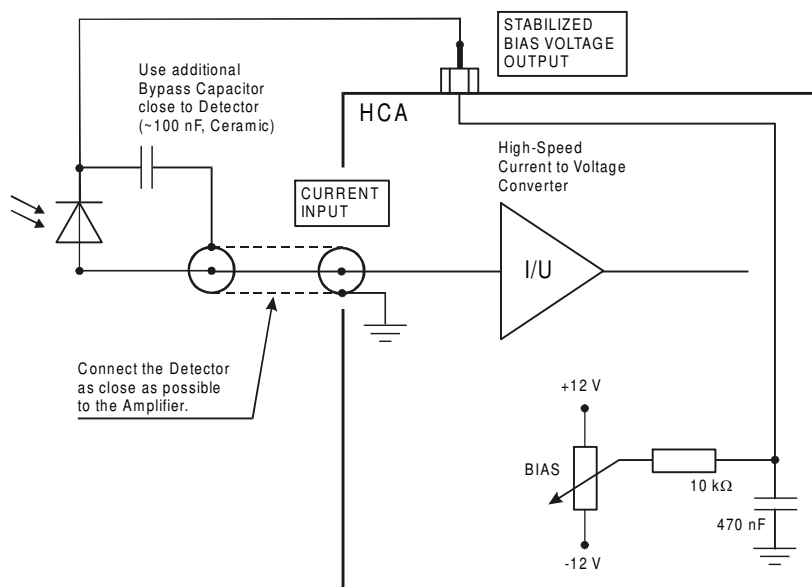
Connectors

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



Application Diagrams

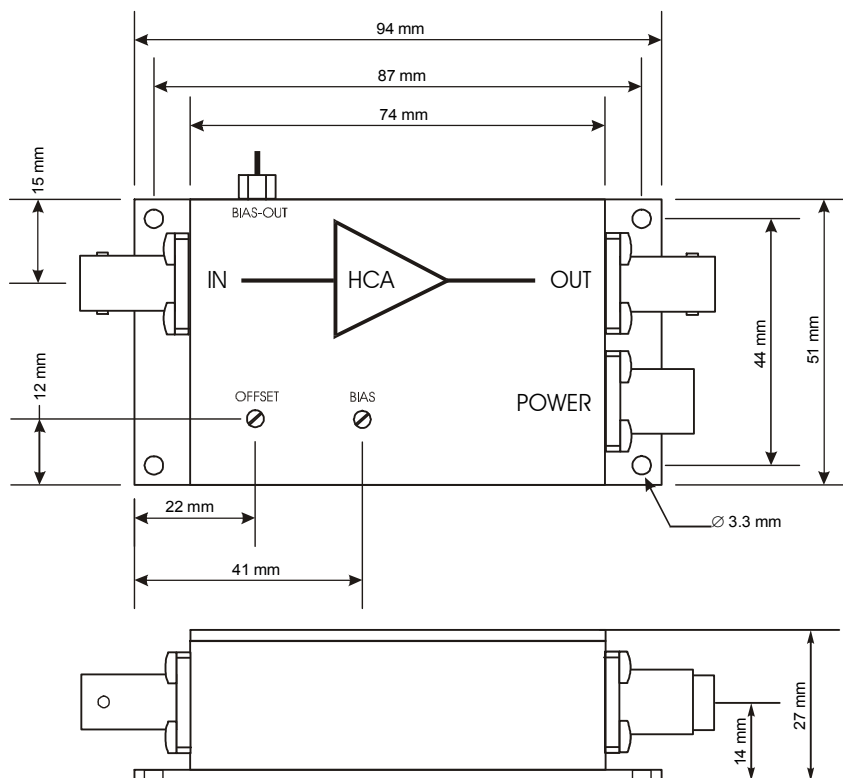
Photo Detector Biasing in Photoconductive Mode:
 Best choice for high speed applications and optimum signal to noise performance.



AZ01-0201-20

High-Speed Current Amplifier

Dimensions



DZ01-0201-22

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