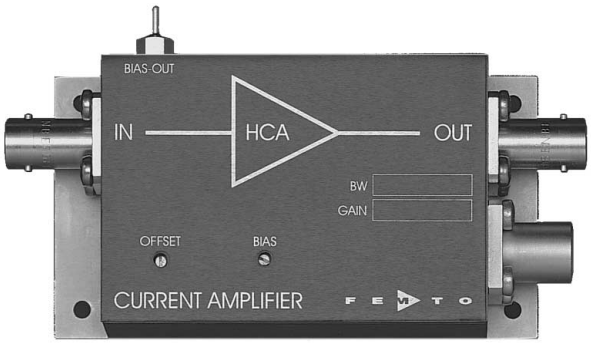
Datasheet HCA-4M-500K

High-Speed Current Amplifier

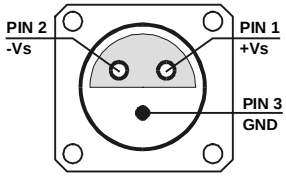


Features	• **Bandwidth and Frequency Response independent of Detector-Capacitance (up to 15 pF)** • **Low Noise, 490 fA/√Hz equivalent Input Noise Current** • **Bandwidth DC ... 4 MHz** • **Transimpedance (Gain) 5 x 10^5 V/A** • **Protection against ± 3.5 kV Transients**
Applications	• **Photodiode- and Photomultiplier-Amplifier** • **Spectroscopy** • **Charge-Amplifier** • **Ionisation Detectors** • **Preamplifier for Lock-Ins, A/D-Converters, etc.**

Specifications	*Test Conditions*	*Vs = ± 15 V, Ta = 25°C*
Gain	Transimpedance	5 x 10^5 V/A (50 Ω Load)
	Gain Accuracy	± 1 %
Frequency Response	Lower Cut-Off Frequency	DC
	Upper Cut-Off Frequency	4 MHz (- 3 dB)
	Rise- / Fall-Time	90 ns (10% - 90%)
	Gain Flatness	± 0.3 dB
Input	Equ. Input Noise Current	490 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	± 4 µA, adjustable by Offset-Trimpot
	Max. Input Current	± 3 µA (linear Amplification)
	Input Offset Voltage	< 2 mV
	DC Input Impedance	50 Ω (virtual) // 5 pF
Output	Output Voltage	± 1.5 V (50 Ω Load)
	Output Impedance	50 Ω
Bias Output	Bias Output Voltage Range	± 12 V, adjustable by Bias-Trimpot
	Bias Output Impedance	10 kΩ // 1 µF
Power Supply	Supply Voltage	± 15 V
	Supply Current	± 50 mA typ.
Case	Weight	210 gr. (0.5 lbs)
	Material	AlMg4.5Mn, nickel-plated

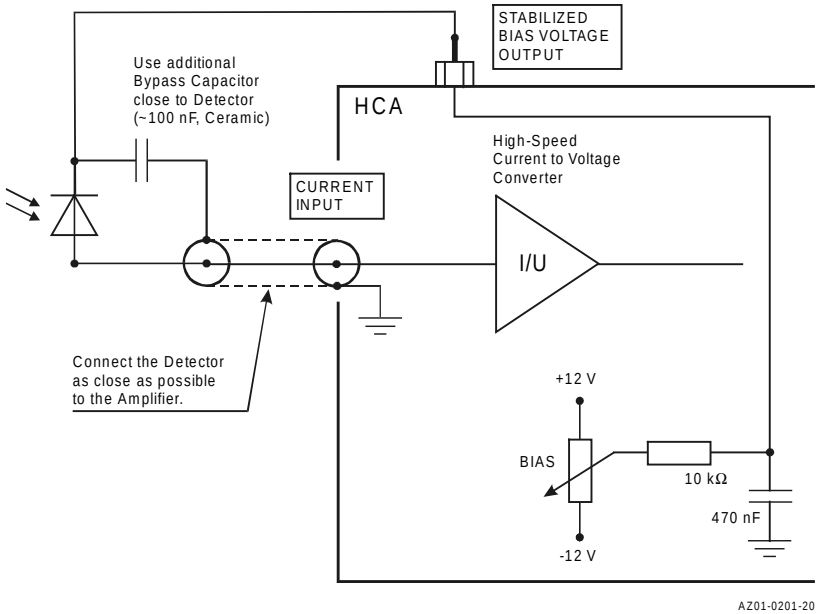
High-Speed Current Amplifier

Specifications (continued)		
Temperature Range	Storage Temperature Operating Temperature	-40 ... +100 °C 0 ... +60 °C
Absolute Maximum Ratings	Input Voltage Input Voltage Transient Power Supply Voltage	± 5 V ± 3.5 kV (Pulsewidth 10 ns) ± 22 V
Connectors	Input Output Power Supply	BNC BNC LEMO Series 1S, 3-pin fixed Socket Pin 1: + 15V Pin 2: - 15V Pin 3: GND



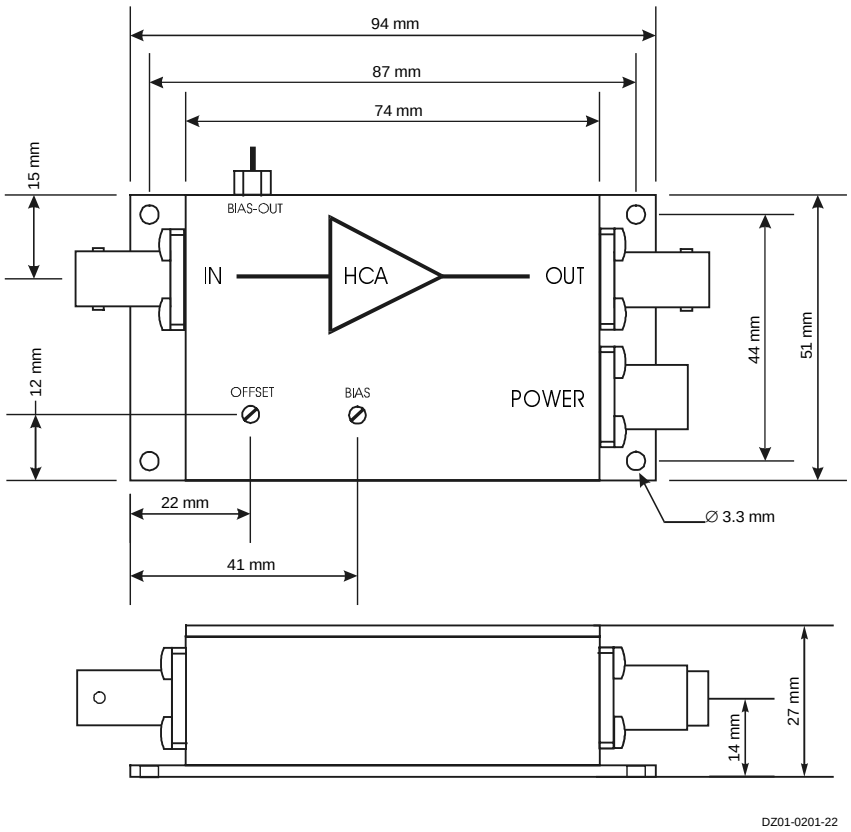
Application Diagrams

Photo Detector Biasing in Photoconductive Mode:
Best Choice for High-Speed Applications and
optimum Signal To Noise Performance.



High-Speed Current Amplifier

Dimensions



FEMTO Messtechnik GmbH
Paul-Lincke-Ufer 34
D-10999 Berlin · Germany
Tel.: +49 (0)30 – 4 46 93 86
Fax: +49 (0)30 – 4 46 93 88
e-mail: info@femto.de
http://www.femto.de

Specifications are subject to change without notice. Information furnished herin is believed to be accurate and reliable. However, no responsibility is assumed by FEMTO Messtechnik GmbH for its use, nor for any infringement of patents or other rights granted by implication or otherwise under any patent rights of FEMTO Messtechnik GmbH. Product names mentioned may also be trademarks used here for identification purposes only.
© by FEMTO Messtechnik GmbH
Printed in Germany