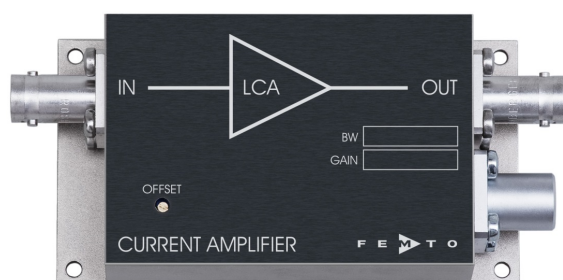


Ultra-Low-Noise Current Amplifier



<p>Features</p>	<ul style="list-style-type: none"> • Bandwidth and Frequency Response Independent of Detector-Capacitance (up to 10 nF) • Extremely Low Noise, 10 fA/√Hz Equivalent Input Noise Current • Bandwidth DC ... 10 kHz • Transimpedance (Gain) 5 x 10⁸ V/A 	
<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>Power Supply</p> <p>Case</p> <p>Temperature Range</p>	<p>V_s = ± 15 V, T_a = 25°C</p> <p>5 x 10⁸ V/A (>10 kΩ Load) ± 1%</p> <p>DC 10 kHz (- 3 dB) 40 μs (10% - 90%) ± 0.1 dB</p> <p>Equ. Input Noise Current 10 fA/√Hz (@ 1 kHz) Equ. Input Noise Voltage 5 nV/√Hz (@ 1 kHz) Input Bias Current 2 pA typ. Input Bias Current Drift Factor 1.7 / 10 K Offset Current Compensation ± 6 nA, Adjustable by Offset-Trimpot Max. Input Current ± 20 nA (Linear Amplification) Input Offset Voltage < 1 mV DC Input Impedance 50 Ω (Virtual) // 5 pF</p> <p>± 10 V (>10 kΩ Load) 50 Ω (Terminate with >10 kΩ for best Performance) ± 10 mA (Linear Amplification)</p> <p>± 15 V ± 40 mA typ.</p> <p>210 gr. (0.5 lbs) AlMg4.5Mn, nickel-plated</p> <p>-40 ... +100 °C 0 ... +60 °C</p>

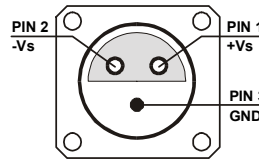
Ultra-Low-Noise Current Amplifier

Absolute Maximum Ratings

Input Voltage $\pm 5\text{ V}$
 Power Supply Voltage $\pm 22\text{ V}$

Connectors

Input BNC
 Output BNC
 Power Supply LEMO Series 1S, 3-pin Fixed Socket
 Pin 1: +15V
 Pin 2: -15V
 Pin 3: GND



Application Diagrams

Photo Detector Biasing in Photovoltaic Mode:
 Use for Low Speed Applications and Minimum Dark Current.

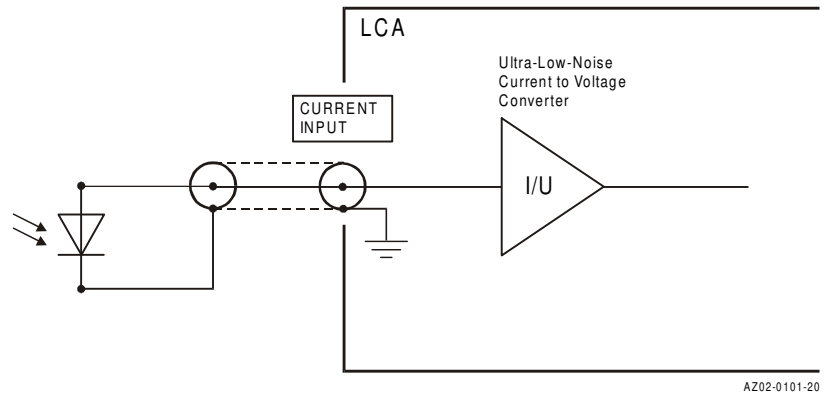
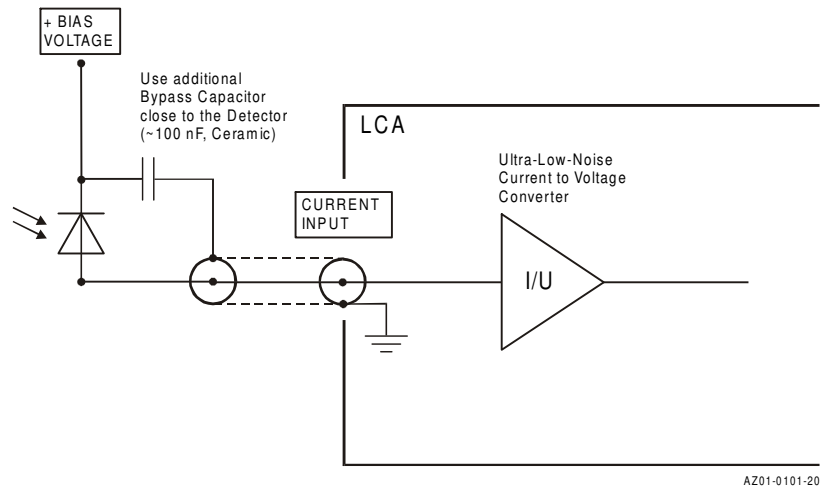
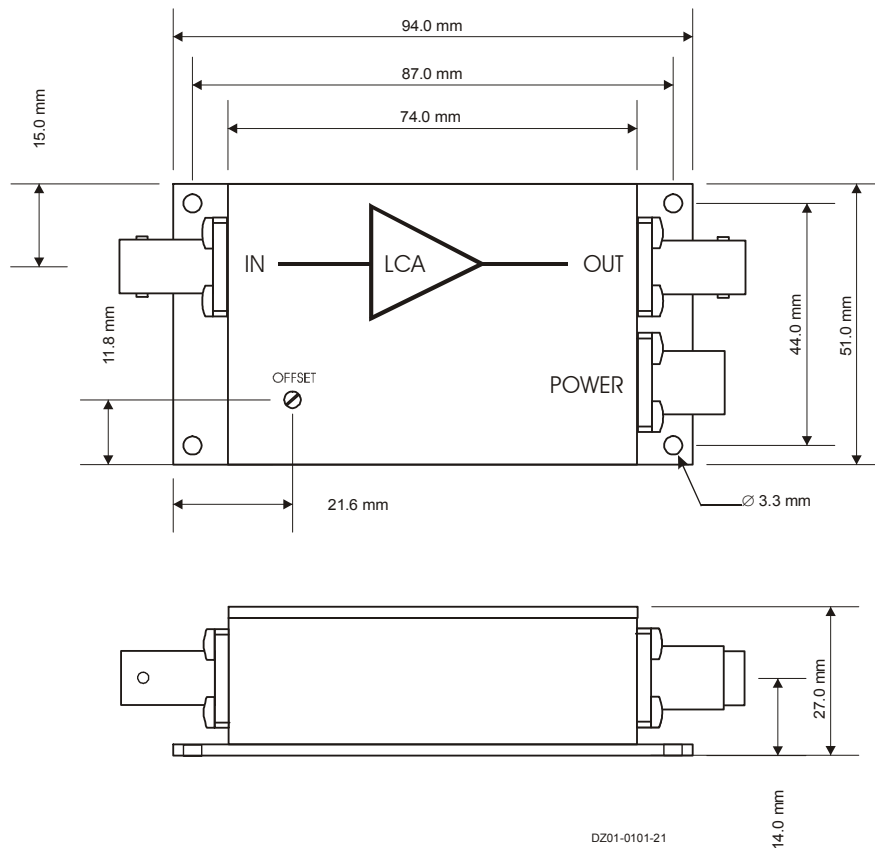


Photo Detector Biasing in Photoconductive Mode:
 Use for Fast Applications and if More Dark Current is Tolerable.
 Bias Voltage Decreases Detector Capacitance.



Ultra-Low-Noise Current Amplifier

Dimensions



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