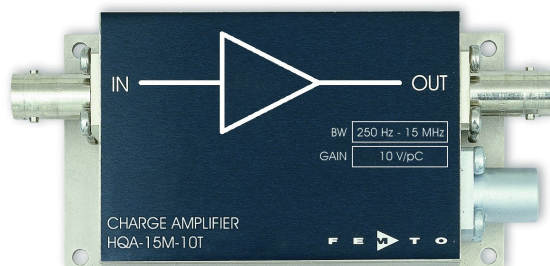


High Frequency Charge Amplifier



<p>Features</p>	<ul style="list-style-type: none"> • High Gain of 10 V/pC • Wide Operating Range from 250 Hz to 15 MHz • Low Input Noise of 40×10^{-21} C/$\sqrt{\text{Hz}}$ and 700 pV/$\sqrt{\text{Hz}}$ • Optimized for Sinusoidal Signals from AC Coupled Charge Sources 																																																						
<p>Applications</p>	<ul style="list-style-type: none"> • Pyro- and Piezoelectric Detectors • Tuning Fork Quartz Crystals • Length Extension Resonators • Atomic Force Microscopy • Optical Measurements • Charged Particle Beam Monitoring 																																																						
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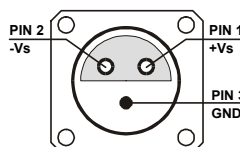
High Frequency Charge Amplifier

Absolute Maximum Ratings

Input Voltage	20 V peak-peak
Power Supply Voltage	± 18 V

Connectors

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

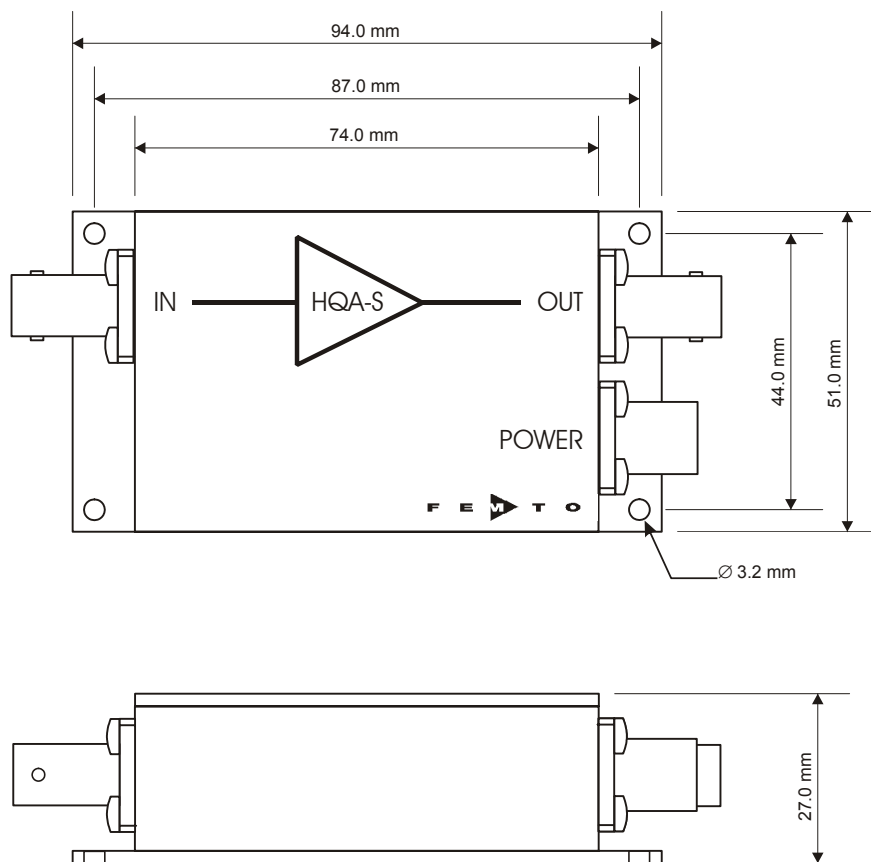


Operation

General:
 The amplifier is AC coupled for direct use with a charge sensor producing sinusoidal signals with no DC background. A source capacitance of less than 1 nF is recommended for proper operation. If the effective source capacitance (sensor plus cable capacitance) is small relative to the effective input impedance of the amplifier (10 nF) the amplifier acts as a virtual ground and most of the charge flows into the amplifier input. At 1 MHz the amplifier input capacitance of 10 nF corresponds to a complex input impedance of 20 Ω. An input resistor of 1 GΩ is incorporated to prevent buildup of static charge. The amplifier is not suited for sources producing an average DC background current as this would saturate the device.

High Frequency Charge Amplifier

Dimensions



DZ01-2299001-R1

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