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## FEMTO AMPLIFIER SELECTION GUIDE

What Kind of Application Do You Have?

Amplification of Small Electrical Signals

Phase Sensitive and Frequency Selective Measurement of Small Signals Potentially Buried in Noise

What Will You Connect to the Amplifier Input?

A High Impedance or Current Source e.g. Photodiode, Photomultiplier (PMT), Charge or Ionization Detector, Faraday Cup, Capacitive Pickup, Scanning Tunneling Microscope Tip (STM), Multi Channel Plate (MCP)

A Low Impedance or Voltage Source e.g. Resistive Element, Coil, Thermopile, Fast Photomultiplier (PMT) or Multi Channel Plate (MCP) with 50 Ohm Termination, High Bandwidth Source

**Current (Transimpedance) Amplifier**

**Voltage Amplifier**

**Lock-In Amplifier**

Which Maximum Bandwidth Do You Require?

Which Maximum Bandwidth Do You Require?

Up to 500 kHz

Up to 200 MHz

Up to 2 GHz

Up to 500 MHz

Up to 100 kHz

**Series LCA**  
Fixed Gain up to  $10^{13}$  V/A, Ultra Low Noise down to 0.2 fA/√Hz

**DLPCA-200**  
Variable Gain from  $10^3$  to  $10^{11}$  V/A, Signal Filters, Remote Interface

**Series HCA**  
Fixed Gain up to  $10^8$  V/A, Low Noise down to 270 fA/√Hz

**DHPCA-100**  
Variable Gain from  $10^2$  to  $10^8$  V/A, Signal Filters, Remote Interface

**Series HSA-X**  
Fixed Gain up to 40 dB (5,000 V/A), Ultra Compact Package

**Series HSA-Y**  
Fixed Gain up to 60 dB (50,000 V/A), 2 Signal Outputs, DC Monitor

**Series DUPVA**  
Variable Gain up to 70 dB, Exceptional Low Noise and Flat Frequency Response

**Series HVA**  
Fixed or Variable Gain up to 60 dB, Compact Package

**Series DHPVA**  
Variable Gain up to 60 dB, Very Low Temperature Drift and Flat Frequency Response, Remote Interface

**Series HLVA**  
Logarithmic Amplifier with 80 dB Dynamic Range, DC Coupled

**Series DLPVA**  
Variable Gain up to 100 dB, Input Impedance up to 1 TΩ, Very Low Noise down to 0.4 nV/√Hz

**Series LIA-MV-150**  
Working Frequency up to 45 kHz, Ultra Compact Package

**Series LIA-BV(D)-150**  
Working Frequency up to 120 kHz, Low Cost 19" Board, Ideal for Multi Channel Applications

**Series LIA-MV(D)-200**  
Up to 120 kHz, Module Housing, Remote Control, Signal Filters, Ideal for OEM Applications