



Low noise high voltage amplifier

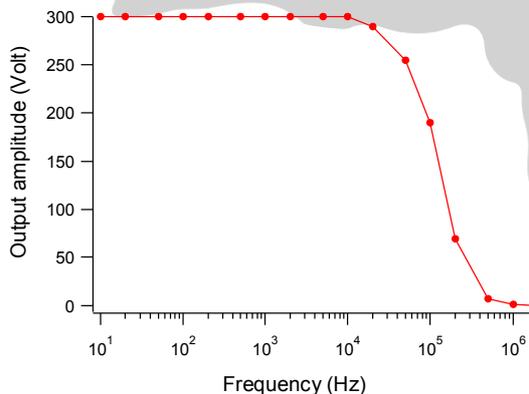
- -150V to +150V Output voltage
- DC to 100kHz @ -3dB large signal bandwidth
- Low output noise: $300\mu\text{V}_{\text{rms}}$ in DC - 1MHz
- Current: 300mA with current limit
- Stable with all capacitive loads, generates no overshoot
- Differential and normal BNC input



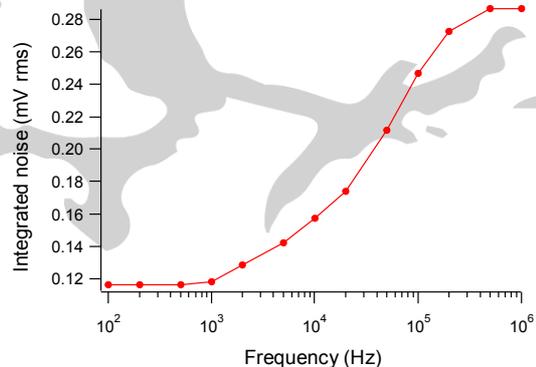
The Falco Systems WMA-280 is a low noise, precision high voltage laboratory amplifier for demanding applications. Its good voltage precision, low output noise and large voltage range make it an excellent choice when high precision is important. It can be used for precise positioning of MEMS devices, with EO-modulators, piezo driver positioning systems, beam steering components, ultrasonics, and many more. The offset and noise specifications of this amplifier are such, that with typical electrostatically actuated MEMS or as piezo driver, a positioning resolution of sub-atomic precision can be achieved.

The amplifier has both a standard BNC and a differential input with a 3-pin multi-pole connector. The latter can be used when the lowest noise and interference performance is required (the amplifier comes with a mating connector for easy interfacing to other equipment). The amplification is 20.0x, ensured by the use of 0.1% accurate resistors.

The amplifier can stand output overload and short-circuit conditions, due to the extremely fast output current limiting circuit that has been employed. The amplifier is suitable for capacitive and resistive loads.



Frequency response at 300V_{pp}

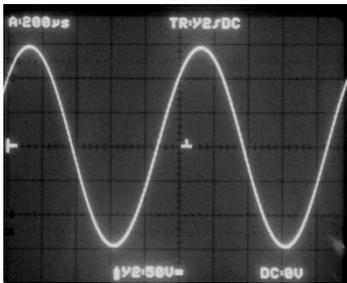


Integrated output noise spectrum

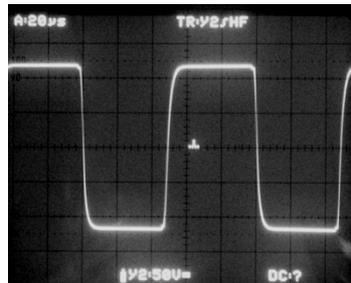


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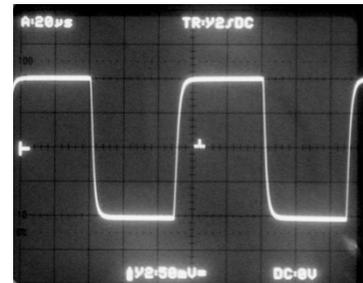
WMA-280 DC - 100kHz HV amplifier



300Vpp 1 kHz sine wave output



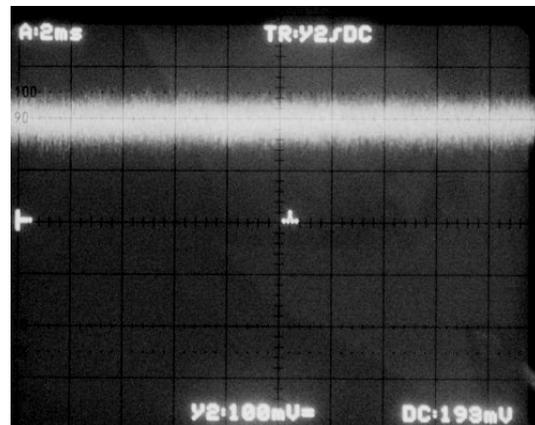
240Vpp and 200mVpp output square waves



Technical specifications

Amplification: 20.0x, fixed
Output: -150V to +150V, 300mA typical with limiter
Bandwidth: DC - 100 kHz @ -3dB large signal bandwidth
350µV _{rms} output noise in DC - 1MHz typical, 8mV DC offset typical
Differential and BNC input connectors
Input impedance: 1kΩ
Stability: stable with all capacitive and resistive loads
Power: 230V 50Hz AC, 120W
Dimensions: 280 x 280 x 160 mm
Weight: 6.8kg
Country of origin: The Netherlands

Specifications may be subject to change



Noise and offset, open output (100x amplified)



Falco Systems (established in 2006) is an innovative company that designs and manufactures technology leading high voltage amplifiers for company R&D departments, research institutes and universities worldwide. These amplifiers are used in e.g. precision engineering, electronics, physics, optics, chemistry, (aero-)space engineering and metrology and control.