

# Single Channel High Voltage Linear Amplifiers

pendulum

DATA SHEET

- Single-Channel High Voltage Linear Amplifiers from 70Vp-p up to 1600Vp-p
- Ultra-linear amplification
- High output power, up to 2A output current
- High Bandwidth, up to 5 MHz
- High Slew rate, up to 500V/ $\mu$ s
- Low output impedance, down to 0.1 Ohm
- Wide range of models to suit any performance and/or budget demand



## Overview

Pendulum Instruments High Voltage Linear Amplifiers are general purpose broadband linear amplifiers having a fixed or variable amplification and capable of bipolar or unipolar output. The amplifiers outputs are linear from DC up to Megahertz range, and exist in Single-Channel and Dual-Channel versions.

Pendulum Instruments High Voltage Linear Amplifiers are valuable tools, for research institutes, R&D labs and component manufacturing industries, in a wide range of applications. Common examples are driving piezo actuators, MEMS, OLEDs, liquid crystals, etc.

The amplifiers are designed to drive resistive and/or small capacitive loads. The output is equipped with a current limiting circuit that withstands accidental short-circuits.

## Single-channel Amplifier selection

We offer a wide range of Single-Channel Hi-Voltage Linear Amplifiers to suit any performance demand for Output voltage, Output current, Speed/Bandwidth and/or budget.

Select your Amplifier from one of our 4 series:

**F-series (F10A, F20A) – Low Cost series**

**A-series (A400, A600, A800) – High Voltage series**

**P-series (P100, P150, P200) – High Power series**

**PV-series (F30PV, F70PV) – High Speed series**

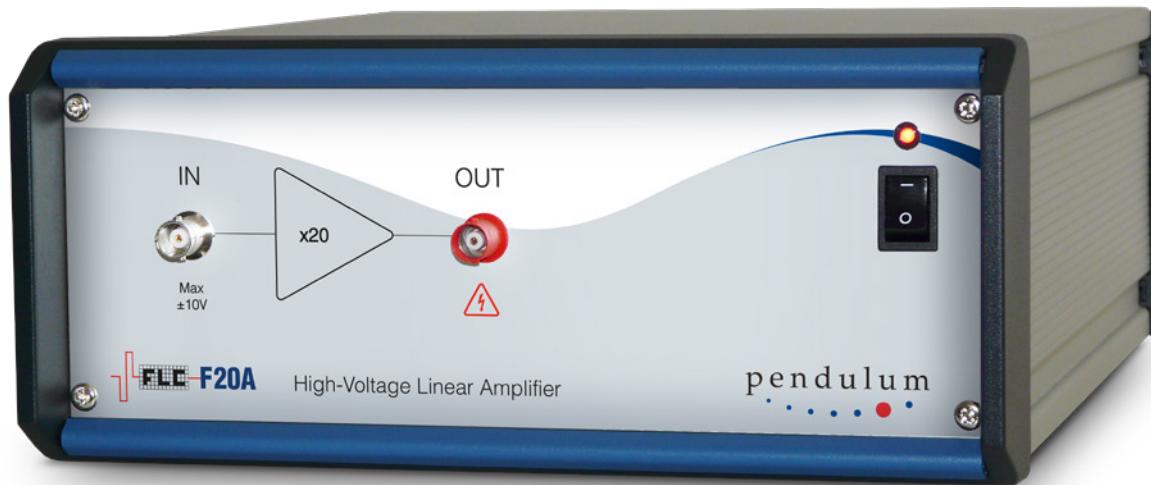
Explore details of the individual models on the follow pages.

For Dual-Channel Amplifiers, we refer to our [Dual Channel High Voltage Linear Amplifiers](#) Datasheet.

Model	Output Voltage	Output Current	Bandwidth	Gain
F10A	-100 to +100V	185 mA	1 MHz	x10, fixed
F20A	-150 to +150V	150 mA	500 kHz	x20, fixed
A400	-200 to +200V	150 mA	500 kHz	x20, fixed
A600	-300 to +300V	75 mA	350 kHz	x100, fixed
A800	-400 to +400V	60 mA	300 kHz	x100, fixed
P100	-50 to +50V	2A	100 kHz	x10, fixed
P150	-0 to +150V	1A	100 kHz	x20, fixed
P200	-100 to +100V	1A	80 kHz	x20, fixed
F30PV	-35 to +35V	2A	5 MHz	x10, variable
F70PV	0 to +70V	1A	5 MHz	x10, variable

pendulum

# Single Channel High Voltage Linear Amplifier F20A



The Pendulum Instruments High Voltage Linear Amplifier F20A has a fixed amplification of 20 times and capable of bipolar high voltage output of  $\pm 150$ V. Any signal source with amplitude up to  $\pm 10$ V can be used as an input device. The input amplitude should normally be kept within  $\pm 7.5$ V. This is most important since the input protection network will limit the signal amplitude and cause clipping. The F20A High Voltage Linear Amplifier is equipped with a microfuse rated at 40 mA, which will be blown if the input voltage exceeds 300% of the maximum.

The maximum capacitive load is set at the factory to  $400$ V/ $\mu$ s which yields the load limit of 400 pF. The continuous output current limit is 150 mA and the output power limit is ca 30 W.

## Frequency response

Full and small-signal frequency responses without load (red and orange marks) and with 400 pF capacitive load (blue and green marks), respectively, are shown in the diagram below:

