

# DSM Linear Piezo Amplifier Products - Specifications

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DSM's **VF linear piezo amplifiers** are high-quality voltage followers that amplify a low voltage input signal. This family of amplifiers works very well in open-loop applications or in applications where the feedback loop is closed externally. The **VF-500** is a high-power benchtop instrument providing 500 mA max continuous current (1 A peak) for driving piezoelectric devices rated up to 200V. The **VF-90** has a compact format providing 90 mA max continuous and peak current for piezo devices rated up to 150V, 200V or up to +/-100V for piezo benders (bimorphs).

DSM's **SA-500 servo amplifier** includes the functionality of the VF-500 and adds additional capabilities for communication, I/O, and stand-alone servo control of piezo positioning systems. High-resolution position control can be achieved using the SA amplifiers to close the loop on an analog or digital feedback signal integrated into the positioning system.

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	Notes	<u>VF-90</u>	<u>VF-500</u>	<u>SA-500</u>
<b>INPUT</b>				
Signal (V)	1	-0.75 to +3.75 -0.75 to +5.00 -2.50 to +2.50	-1.50V to +7.50V -1.50V to +10.0V	-1.50V to +7.50V -1.50V to +10.0V
Connector		Screw Terminal	BNC	BNC
Supply Voltage	2	+5.50VDC @ 3A	100-250VAC, 50/60Hz 5.2A	100-250VAC, 50/60Hz 5.2A
<b>OUTPUT</b>				
Connector		Screw Terminal	SMA	SMA
Voltage Range (V)	3	-30 to +150 -30 to +200 -100 to +100	-30V to +150V -30V to +200V	-30V to +150V -30V to +200V
Gain		40	20	20
Max Peak Current (mA)		90	500, > 5msec	500, > 5msec
Max Continuous Current (mA)		90	1000, < 5msec	1000, < 5msec
Noise (mVrms)		~1	~3	~3
Bandwidth (kHz)		>5	~5	~5
Dimensions W x D x H (mm)		90 x 100 x 23	100 x 240 x 330	100 x 240 x 330
<b>PROTECTION</b>				
Input Supply Voltage		Yes	Yes	Yes
Short Circuit		Yes	Yes	Yes
Over Current		Yes	Yes	Yes
Over Temperature		Yes	Yes	Yes
<b>OPTIONS ("Yes" = available to purchase as an option on this model, "No" = not available on this model)</b>				
Analog OR Digital Feedback	4	No	No	Yes
Digital I/O	5	No	No	Yes
LCD User Interface	6	N/A	Yes	Included

## NOTES

- Input will tolerate up to +/-10.0V signal
- VF-90 is shipped with universal (100-240V, 50-60Hz) wall mount power supply
- Only VF-500 and SA-500 can be configured to other custom voltages, contact DSM
- Select Analog (24 bit) OR Digital Feedback (these cannot be selected together in the same amplifier). Either can be used for a closed-loop control input signal. Digital feedback is communicated via serial protocol. Contact DSM for assistance in selecting and pricing a feedback device.
- This option makes available up to two digital (TTL) inputs and up to two outputs, which are configured at the factory. Digital I/O can be used to command the start of a move, to indicate the completion of a move, to send a "within range" signal, etc. Requires custom software to meet customer specifications. Contact DSM for assistance and pricing.
- For VF-500, option supplies a LCD user interface for configuration of an integrated sine wave generator (DC offset voltage, amplitude, and frequency adjustments)

