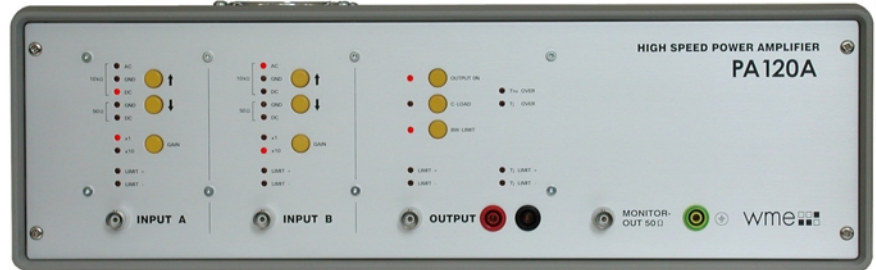


High Speed Power Amplifier PA120A

- # Bandwidth: DC-1,5 MHz
- # Slew-Rate: 250 V/μs
- # Load current: > 10 A_p
- # Offset: < 3 mV
- # Sophisticated limiting and protection concept



Application Range:

- # Research
- # Development (in particular power electronics)
- # Pulse physics
- # Component testing
- # Quality assurance
- # Measurement and test engineering

PA120A is a high speed DC-coupled power amplifier featuring power bandwidth of 1,5MHz.

The output stage of PA120A provides output voltages ranging from -30V to +30V, whereas load currents of ∂ 4A and peak load currents up to ∂ 10A are available.

The amplifier comes with two input channels; their signals are added together. This allows e.g. for providing an AC-signal with a DC-offset. Another example would be superimposing of the wanted signal by a disturbing signal. Input resistance (50T / 10kT) as well as coupling mode (AC / GND /DC) and gain (x1 / x10) can be set for each input channel separately.

LED indicators at the inputs (LIMIT + / LIMIT -) signalise overmodulation of the input stage.

The power output stage is protected against overload and overtemperature. The supply voltage of the output stage is varied depending on junction temperature of its transistors (T_j LIMIT + / T_j LIMIT -). This method allows for achieving high output currents even at small output voltages.

Monitoring of the junction temperature also makes a fast current limitation unnecessary, thus allowing for very high peak output currents (> 10A). If either the junction temperature exceeds 125°C (T_j OVER) or the internal heatsink temperature exceeds 110°C (T_{hs} OVER), the output of the amplifier will be disconnected.

If the output voltage level exceeds its positive or negative limit, the appropriate output limit indicator LED lights up (LIMIT + / LIMIT -). The output voltage will be then reduced, preventing overmodulation of the power output stage.

#Technical Specifications

Parameter	Symbol	Min	Typ	Max	Unit	Comment
Absolut maximum ratings:						
Input voltage (R_I 10kT)	V_{I10}	-90		+90	V_P	
Input voltage (R_I 50T)	V_{I50}		15		V_{RMS}	
Electrical characteristics:						
Input voltage (R_I 10kT, GAIN x1)	V_{I10-1}	-30		+30	V_P	
Input voltage (R_I 10kT, GAIN x10)	V_{T10-10}	-3		+3	V_P	
Input voltage (R_I 50T, GAIN x1)	V_{T50-1}	-30		+30	V_P	max. $15V_{RMS}$!!
Input voltage (R_I 50T, GAIN x10)	V_{T50-10}	-3		+3	V_P	
Lower limiting frequency AC	f (-3dB)		15		Hz	
Output voltage	V_O	-30		+30	V_P	$R_L \neq 0, 5T, f \neq 10kHz$
Load current	I_{ODC}	2	2,2		A	f=0Hz
Load current	I_{OAC}	4	4,5		A_P	f \neq 10kHz, square
Load current	I_{OAC}	6,3	7		A_P	f \neq 10kHz, sinus
Pulsed load current	I_{OP}	10	12		A_P	$t_p \leq 20\mu s, D \leq 0,2$
Output resistance	R_O		0,1		T	
Output resistance Monitor Out	R_{OM}		51		T	
Frequency response	f (-3dB)		0..1,5		MHz	$R_L = 50T$
Frequency response BW-LIMIT	f (-3dB)		0..300		kHz	$R_L = 50T$
Slew-Rate	SR	200	250		V/ μs	$R_L = 50T$
Output offset voltage	$\div V_{OO}$	-3	1,5	+3	mV	
Mains voltage	V_{LINE}	207	230	253	V_{AC}	
Mains frequency	f_{LINE}	45	50	65	Hz	
Power consumption	P_{LINE}	25		300	W	
Input current	I_{LINE}			1,6	A	
Mains fuse			T2,5A			
Ambient temperature (operation)	T_{AMB}	0	20	35	$^{\circ}C$	
Storage temperature	T_S	-25		+85	$^{\circ}C$	
Width	W		470		mm	
Height	H		153		mm	
Depth	D		300		mm	
Weight	m		10,5		kg	

Specifications are subject to change without notice.