

# APS 145

## Power Amplifier



### Applications

- ✓ Power amplifier for modal testing shakers
- ✓ Power amplifier for environmental testing systems
- ✓ Power amplifier for calibration shakers



### Range of use

- ✓ Research and development departments in industry
- ✓ Environment testing laboratories
- ✓ Universities and research institutes



### Features

- ✓ Current and voltage mode amplifier
- ✓ Monitor sockets for output current / voltage
- ✓ Frequency range DC ... 50 kHz
- ✓ Gain and current limit control
- ✓ Multifunction display
- ✓ Switch for phase inversion (0° or 180°)
- ✓ Control inputs for remote emergency shut down
- ✓ Amplifier state outputs for integration in testing systems



## Specifications

The power amplifier type APS 145 has been designed to drive vibration exciters with 2.5 Ohm resistive load requiring up to 810 VA power with best performance. Harmonic distortion of the output is very small as heavy negative feedback is used. The device can tolerate temperature and supply line variations while maintaining excellent stability.

The APS 145 can be used as both a voltage generator with low output impedance or a current

generator with high output impedance with a flat frequency response. The maximum output-current is adjustable by a current limiter in order to protect the exciter coil from an overload. Additionally, signals from an over-travel-switch or a temperature switch mounted at the vibration exciter, can be used to switch off the amplifier in an overload operation situation.

### Technical Data

General	
Power Output, max.	810 VA into a 2.5 Ohm exciter or resistive load, at 25 °C, at 1 kHz and nominal mains voltage
Voltage Output, max.	45 V <sub>RMS</sub> , DC ... 15 kHz
Current Output, max.	4 A DC 15 A <sub>RMS</sub> > 0.1 Hz, Z = 1.5 Ohm 18 A <sub>RMS</sub> > 1 Hz, Z = 2.5 Ohm – optimal impedance
Frequency Range	0.1 Hz ... 10 kHz full power DC ... 50 kHz small signal voltage (-20 dB)
Input Impedance	> 10 kOhm
Input Voltage, max.	< 5 V <sub>RMS</sub>
Monitor Output, Voltage	0.1 V/V ±3 %, 5 Hz ... 15 kHz
Monitor Output, Current	0.1 V/A ±3 %, 5 Hz ... 15 kHz
Power Requirements	Single phase 100 V / 120 V / 230 V <sub>RMS</sub> , ±10 %, 50 Hz ... 60 Hz (factory presetting), approx. 1,900 VA at full load
Overall Dimension (L x W x H)	482.6 × 451 × 132 mm (19 × 17.8 × 5.2 inch)
Weight	25.5 kg (46 lb.)



## Technical Data

Voltage Mode	
Frequency Response, DC Input	DC ... 10 kHz $\pm$ 0.5 dB DC ... 50 kHz $\pm$ 3.0 dB small signal voltage (-20 dB)
Frequency Response, AC Input	5 Hz ... 10 kHz $\pm$ 0.5 dB 2 Hz ... 50 kHz $\pm$ 3.0 dB small signal voltage (-20 dB)
Total Harmonic Distortion & Noise	< 0.2 % (0.1 Hz ... 5 kHz) < 0.3 % ( 5 kHz ... 10 kHz)
Gain	18 V/V $\pm$ 2 dB
Current Mode	
Frequency Response, DC Input	0.1 Hz ... 10 kHz $\pm$ 0.5 dB DC ... 50 kHz $\pm$ 3.0 dB small signal voltage (-20 dB)
Frequency Response, AC Input	5 Hz ... 10 kHz $\pm$ 0.5 dB 2 Hz ... 50 kHz $\pm$ 3.0 dB small signal voltage (-20 dB) (2 separate BNC sockets at back panel)
Total Harmonic Distortion & Noise	< 0.3 % (0.1 Hz ... 2 kHz) < 0.8 % (2 kHz ... 10 kHz)
Gain	7.5 A/V $\pm$ 2 dB