

APS 0109

Zero Position Controller for Vibration Exciters



The APS 0109 Zero Position Controller automatically controls the zero position of a vibration exciter irrespective of its load. It is essential to employ a position controller of type APS 0109 especially when working with an air-bearing vibration shaker without any integrated automatic load-compensation. The control characteristics of the APS 0109 can be adjusted, so the Zero Position Controller APS 0109 can easily be adapted to different types of shakers in vertical or horizontal operation directions. The Zero Position Controller contains a number of monitoring and control functions that efficiently prevent any overload or damage of the connected system. The APS 0109 is intended for the automatic control of vibration systems with integrated power amplifiers that supply an offset-free DC voltage.

Applications

- Zero position control of vibration exciters used in vibration testing and in calibration systems

Range of Use

- Calibration laboratories for vibration measuring equipment
- Environmental test laboratories using vibration test equipment

Features

- For use on vibration exciters operating in horizontal and vertical directions
- Monitoring of vibration displacement for exceedance of maximum displacement
- Indicator of zero position
- Set up of certain load independent zero positions
- Monitoring of air pressure in air bearing vibration exciters
- Modular structure allows system configuration to customer's demands

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The following functions are available:

- Switching on and off regime controlled by microcontroller (soft start-up and shut-down)
- Signal inputs will be connected through only after zero position has been reached
- In case of error: system is shut down in a well-defined and soft manner
- Monitoring of maximum vibration displacement
- Monitoring of air pressure in air-bearing shakers
- Adjustable zero position
- LED for indication of operating condition and protective function

The customer can opt between three types of optical position measuring systems. In this way, any interference by magnetic fields (for example that of the shaker) is avoided. Because of its modular design, the APS 0109 can be configured cost-effectively in line with the requirements of the entire system.

Internal Gain	0 dB = 1
Bandwidth	0.1 Hz ... 25 kHz
Max. Input Voltage	10 V peak
Zero Setting Range	30 % of maximum displacement
Power Supply	100 V ... 240 V, 50 Hz or 60 Hz
Dimensions of the Rack	1 U, 19"
Operation	controls on front panel
Interface	RS232 Interface for linkage to SPS (24 VDC, indirect-coupled) (optional extra)
Optional Extras:	
Remote Control	via RS232 / USB
Position Measuring System	Optical wedge (APS 0109-G) Laser (APS 0109-L) Triangulation sensor (APS 0109-T)
PC Software	for editing and saving the configuration files
External Configuration Memory	To swap configuration files between several APS 0109 (without a PC)

Example Application

