

FRAUNHOFER INSTITUTE FOR STRUCTURAL DURABILITY AND SYSTEM RELIABILITY



- 1 Analog PZT-amplifier typ: PIA1115/2020 Prototyp-III
- 2 Automated measurement with mit dSpace (T.J.) Steuersignal: 5 V Offset, 4.8 V Ampli tude

Fraunhofer Institute for Structural Durability and System Reliability LBF

Bartningstraße 47 64289 Darmstadt

Contact person

Dipl.-Ing. Christoph Klein Phone: +49 6151 705-246 christoph.klein@lbf.fraunhofer.de

www.lbf.fraunhofer.de



ANALOG PZT-AMPLIFIER IN COMPACT AND MOBILE DESIGN

The persistent trend towards lightweight construction coming together with increasing demands on the comfort and operating behavior of technical systems, necessitate active measures in the field of noise and vibration reduction, increasingly. In this context piezo-electric actuator systems are particularly of great importance. On this occasion, in particular the development of power amplifiers for piezoelectric actuators is a special challenge, because they are a capacitive load of the amplifier. According to the quality of the amplifier disturbing higher harmonics, which are able to bring in more energy to the system than the basic signal itself, can occur. Hence, for the active vibration control a power amplifier was developed. Special importance has been attached to a high linearity and a low THD.

By compact size and the ability of a supply with 12 VDC the piezo amplifier is particularly suitable for mobile application. Because of the modular structure an adaptation to different application is possible and easy to implement.