The VDD-PC Based Digital Vibrometer is an excellent tool to characterize very small dynamic displacements. Both researchers and engineers use the large bandwidth, fast response and fine resolution to measure displacement in applications where traditional analog vibrometers lack sufficient accuracy due to uncompensated errors.

**Applications**

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- Both researchers and engineers use the large bandwidth, fast response and fine resolution to measure displacement in applications where traditional analog vibrometers lack sufficient accuracy due to uncompensated errors.

**Frequency Response Measurement**

Frequency response testing on actuators is an essential analysis technique and helps to improve a product's quality. The VibSoft-VDD package includes advanced analysis tools that can be customized for specific applications. The VibSoft-VDD package includes advanced analysis tools that can be customized for specific applications.

**Calibration of Transducers and Sensors**

- The sophisticated design of Polytec's Digital Vibrometer makes it an excellent choice for a wide range of applications, including data storage, MEMS, and hearing.
- New measurements for data storage, MEMS, and hearing are possible with the digital LDV.
- The high-resolution digital LDV permits accurate measurements of all modal frequencies, and it can resolve small displacements with exceptional sub-picometer resolution.
- The digital LDV uses a laser diode as a reference source and a high-resolution digital detector to measure displacement sensitivities.

**For more information and applications of Polytec's Digital Vibrometers, please visit the Polytec web site at www.polytec.com or contact your local Polytec office.**

**Benefits of Digital Vibrometers**

- The sophisticated design of Polytec’s Digital Vibrometer opens the door to many new possibilities. The digital LDV’s extremely low noise floor and the exceptional accuracy of its digital displacement measurement system make it an ideal tool for precision measurements in the semiconductor industry.
- With these advancements, the VDD-PC Based Digital Vibrometer offers a multi-channel data acquisition system and the VibSoft-VDD software package for data processing.
- The VibSoft-VDD software package is available as a standalone or as a component of the VibSoft suite.

**Picometer Displacement Sensitivity**

- New measurements for data storage, MEMS, and hearing are possible with the digital LDV.
- The VDD-PC Based Digital Vibrometer offers a choice of either the stand-alone VDD-600 Digital Front-End or an ADD-equipped VDD-6000 Vibrometer.
- With its high performance capabilities, the VDD-PC Based Digital Vibrometer is an excellent choice for precision measurements in the semiconductor industry.

**Polytec’s Digital Vibrometer measurement on a real-world scale:**

- With its high performance capabilities, the VDD-PC Based Digital Vibrometer is an excellent choice for precision measurements in the semiconductor industry.
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The VDD-Option for OFV-5000 Vibrometer Controller

Vibometer and the MSA-500 Micro displacement measurements using waveform generator and export, with open software.

OFV Series Sensor Head

OFV-505 Sensor Head

OFV-551 Fiber Interferometer

OFV-552 Interferometer

Polytec offers five vibrometer heads –

Three two signals can be represented as

The VDD functionality is also available as

For data storage, MEMS, hearing

Amplitude frequency response

Total harmonic distortions

Displacement resolution1)

Max. displacement

Frequency range

Input coupling

Overall distortion

Time mode: 64 MSa

Velocity: typ. ± 0.2 %

Displacement: typ. ± 0.1 %

± (0.2 % of RMS reading + 1 nm) for ≥ 100 nm

± (1 % of RMS reading) for 1 nm … 100 nm

0.1 pm s−1

0.001 μm s−1/√Hz

0.01 μm s−1/√Hz

1 μm s−1/√Hz

Displacement resolution values refer to the settings for a maximum velocity of 810 mm/s.

<0.1 pm

0.001 μm s−1/√Hz

0.01 μm s−1/√Hz

1 μm s−1/√Hz

t = 1 s ... 2 s

t < 1 s

f ≤ 51.2 kHz

f > 51.2 kHz

<0.1 pm s−1

0.001 μm s−1/√Hz

0.01 μm s−1/√Hz

1 μm s−1/√Hz

810 mm/s

405 mm/s

0.1 pm s−1

0.001 μm s−1/√Hz

0.01 μm s−1/√Hz

1 μm s−1/√Hz

<0.1 pm

0.001 μm s−1/√Hz

0.01 μm s−1/√Hz

1 μm s−1/√Hz

1 s

2 s

100 s ...

200 Hz ...

0.1 Hz ...

<0.1 % up to 50 kHz (sinusoidal vibration)

VDD-Option for OFV-5000 Vibrometer Controller

2 MHz bandwidth and cutting-edge, sub-picometer resolution.

An extensive number of functions including I.II., auto power spectra, cross power spectra, coherence and phase.

The VDD decodes the phase of the Doppler signal to measure the dynamic displacement of the test object.

The Sensor Head contains information about the displacement signal to measure the dynamic displacement of the test object.

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