



Digital Acceleration Decoder D-AD-3

Ultrafast FPGA-based Digital Signal Processing

Optomet Vibrometers feature an end-to-end FPGA-based digital signal processing allowing a fully digital read-out of the measurement data. Digital signal processing avoids any drawbacks of analog demodulation which may result from component aging, temperature dependencies, noise and non-linearities. Significantly higher sensitivity, better resolution, and stability are the benefits of OptoMET's end-to-end digital signal processing. Extremely low noise levels produce precise results even from poorly reflecting measurement objects.

HIGHLIGHTS:

- Digital decoder
- 11 acceleration measuring ranges
- Frequency range: 0 Hz - 2.5 MHz
- Max. acceleration 16,000,000 g
- Best acceleration resolution
70 $\mu\text{g} / \sqrt{\text{Hz}}$ *



High Speed Acceleration Decoder

All vibrometers series feature by default a velocity decoder and can be supplemented with a suitable displacement and/or acceleration decoder.

The D-AD-3 acceleration decoder enables acceleration measurements up to 16,000,000 g at a maximum of 2.5 MHz and 10 m/s.

Required velocity decoder: D-VD-3

* The resolution is defined as the signal amplitude (rms) that produces 0 dB signal/noise ratio with 1 Hz spectral resolution at 50 % fmax.

Technical data

Pos.	Full Scale Output (Peak) g	Max. Frequency kHz	Max. Velocity m/s
1	160	25	10
2	640	50	10
3	3,200	100	10
4	16,000	250	10
5	64,000	500	10
6	320,000	1,000	10
7	960,000	1,500	10
8	3,200,000	2,500	10
9	8,000,000	2,500	10
10	12,800,000	2,500	10
11	16,000,000	2,500	10