



Digital Acceleration Decoder D-AD-3N

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 40,000,000 g
- Best acceleration resolution 90 $\mu\text{g} / \sqrt{\text{Hz}}$ *

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-3N acceleration decoder enables acceleration measurements up to 40,000,000 g at a maximum of 2.5 MHz and 25 m/s.

Required velocity decoder: D-VD-3N

* 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	392	25	25
2	1,560	50	25
3	7,800	100	25
4	39,200	250	25
5	156,000	500	25
6	784,000	1,000	25
7	2,350,000	1,500	25
8	7,840,000	2,500	25
9	19,600,000	2,500	25
10	31,300,000	2,500	25
11	40,000,000	2,500	25