optomet.
LASER VIBROMETRY

Digital Acceleration Decoder
D-AD-3N-12

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

• 9 acceleration measuring ranges

• Frequency range: 0 Hz - 2.5 MHz

• Max. acceleration 19,200,000 g

• Best acceleration resolution
  90 µg / √Hz*

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-12 acceleration decoder enables acceleration measurements up to 19,200,000 g at a maximum of 2.5 MHz and 12 m/s.
Required velocity decoder: D-VD-3N-12

* 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	12
2	1,560	50	12
3	7,800	100	12
4	39,200	250	12
5	156,000	500	12
6	784,000	1,000	12
7	2,350,000	1,500	12
8	7,840,000	2,500	12
9	19,200,000	2,500	12