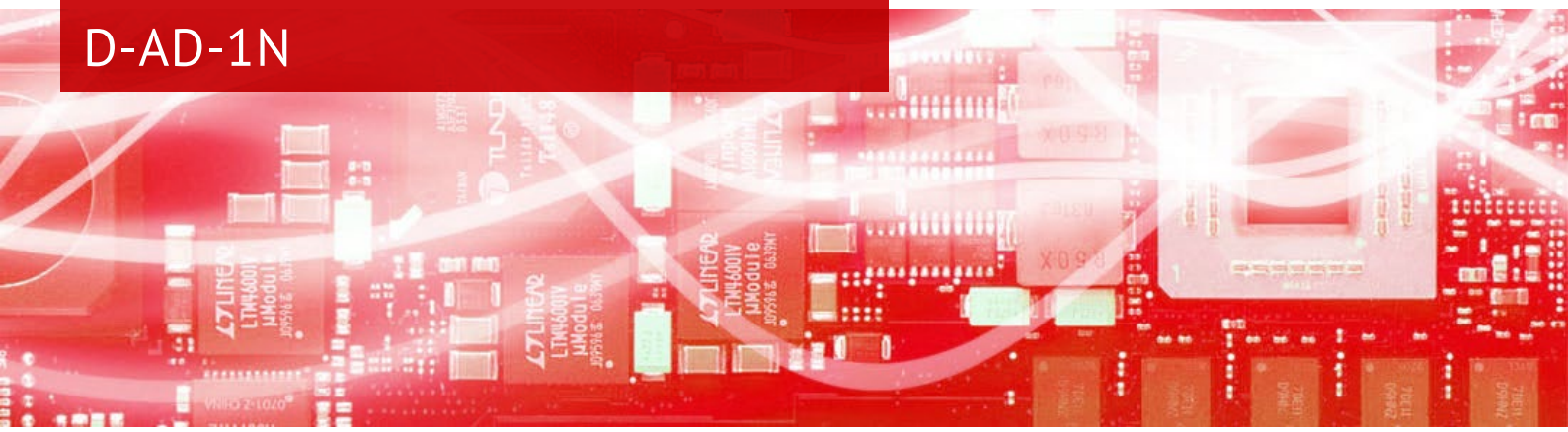
optomet.
LASER VIBROMETRY

Digital Acceleration Decoder
D-AD-1N



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
- 8 acceleration measuring ranges
- Frequency range: 0 Hz - 500 kHz
- Max. acceleration 1,600,000 g
- Best acceleration resolution[*1]
  90 µg / √Hz

Universal Basis 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-1N acceleration decoder allows acceleration measurements up to 1,600,000 g at a maximum of 500 kHz and 5 m/s.
Required velocity decoder: D-VD-1N

[*1] 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	5
2	1,560	50	5
3	7,800	100*2	5
4	39,200	250*2	5
5	156,000	500*2	5
6	392,000	500*2	5
7	784,000	500*2	5
8	1,600,000	500*2	5

*2 In Scan-Mode: max. frequency 80 kHz