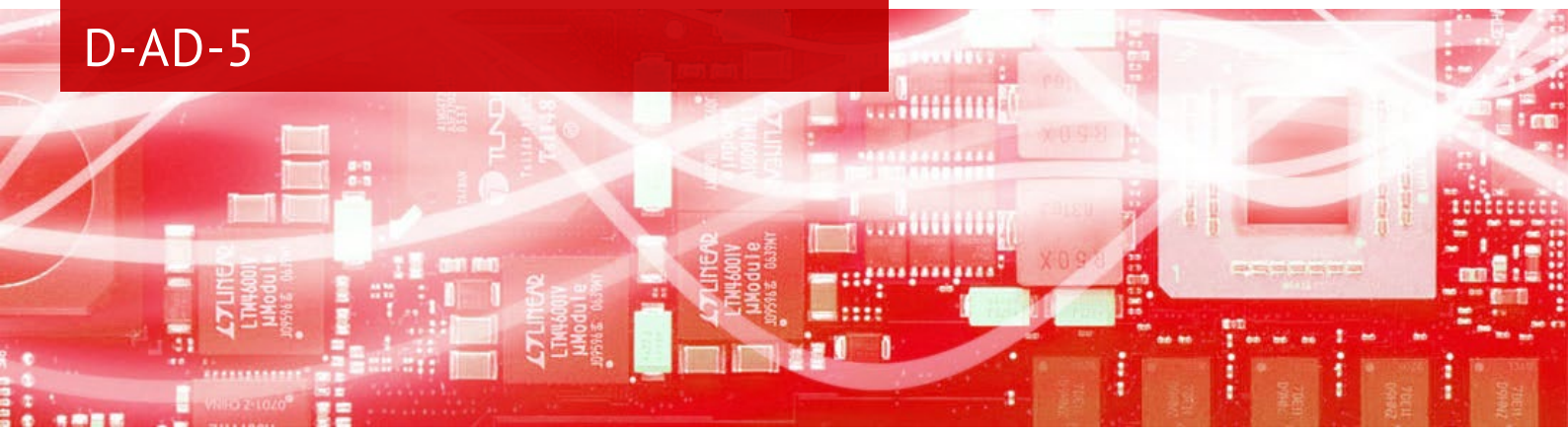
optomet.
LASER VIBROMETRY

Digital Acceleration Decoder
D-AD-5



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
- 14 acceleration measuring ranges
- Frequency range: 0 Hz - 10 MHz
- Max. acceleration 32,000,000 g
- Best acceleration resolution 1.8 µg / √Hz*

High-End 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-5 acceleration decoder was specially developed for use with velocity decoder D-VD-5. It expands the laser Doppler vibrometers of the Vector Series with the capability of a real-time output of the acceleration value.
Required velocity decoder: D-VD-5

* 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	1.6	2.5	10
2	6.4	5	10
3	32	10	10
4	160	25	10
5	640	50	10
6	3,200	100	10
7	16,000	250	10
8	64,000	500	10
9	320,000	1,000	10
10	960,000	1,500	10
11	3,200,000	2,500	10
12	32,000,000	10,000	10
13	25,600,000	5,000	10
14	16,000,000	2,500	10