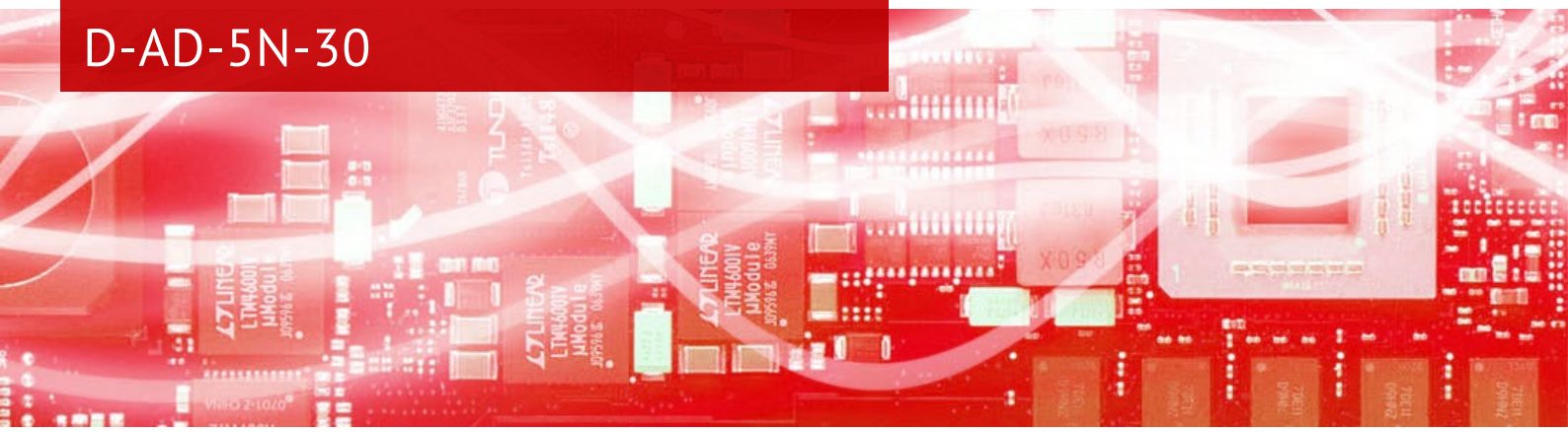
optomet.
LASER VIBROMETRY

Digital Acceleration Decoder
D-AD-5N-30



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
- 15 acceleration measuring ranges
- Max. frequency up to 25 MHz
- Max. acceleration 78,400,000 g
- Best acceleration resolution 1.8 µg / √Hz*

High-End Master Acceleration Decoder 30 m/s

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

The D-AD-5N-30 expands the frequency bandwidth up to 25 MHz, is especially used for ultrasonic applications.
Required velocity decoder: D-VD-5N-30

* 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	3.9	2.5	30
2	15.6	5	30
3	78	10	30
4	392	25	30
5	1,560	50	30
6	7,800	100	30
7	39,200	250	30
8	156,000	500	30
9	784,000	1,000	30
10	2,350,000	1,500	30
11	7,840,000	2,500	30
12	78,400,000*2	25,000	30*1
13	62,700,000	5,000	30
14	40,000,000	2,500	30
15	1,920,000	100	30

*1 Velocity limited to 1 m/s at frequencies above 10 MHz.
*2 Acceleration limited to 15,300,000 g at frequencies above 10 MHz.