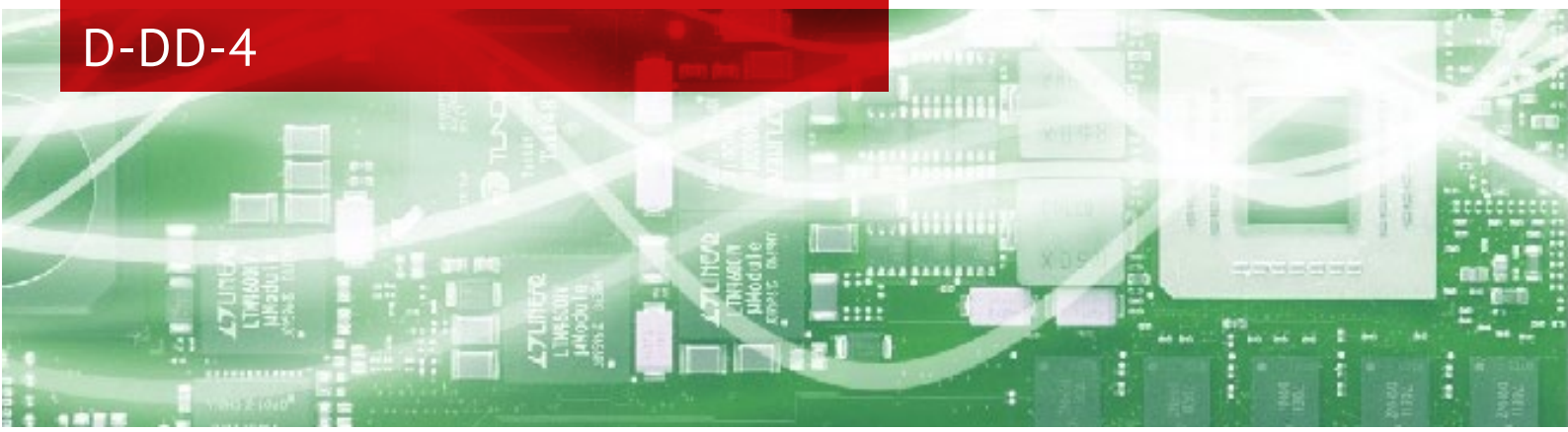
optomet.
LASER VIBROMETRY

Digital Displacement Decoder
D-DD-4



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
- 19 displacement measuring ranges
- Frequency range: DC bis 10 MHz
- Max. velocity up to 5 m/s
- Resolution down to 50 femtometers

High Frequency Displacement Decoder

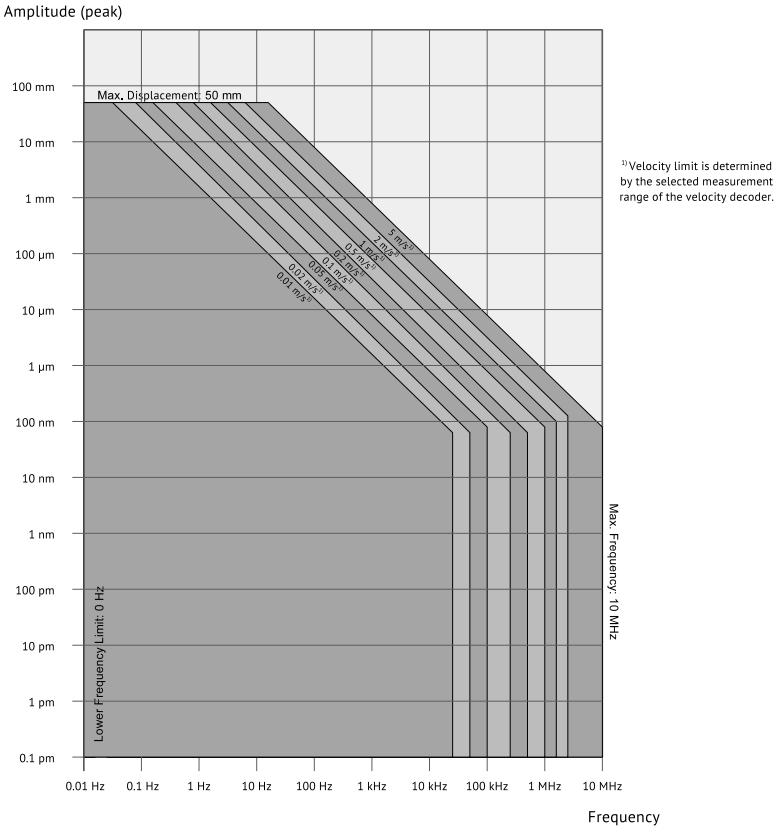
All vibrometers series feature by default a velocity decoder and can be supplemented with a suitable displacement and/or acceleration decoder.

The D-DD-4 displacement decoder was specially developed for measuring displacements at high frequencies up to 10 MHz.
This decoder combines a wide measuring frequency bandwidth with an excellent resolution down to 50 femtometers.
Required velocity decoder: D-VD-4

Technical data

Pos.	Full Scale Output (Peak to peak) µm	Signal Frequency Range kHz	Max. Velocity m/s
1	0.1	0 ... 10,000	5
2	0.2	0 ... 10,000	5
3	0.4	0 ... 10,000	5
4	1	0 ... 10,000	5
5	2	0 ... 10,000	5
6	4	0 ... 10,000	5
7	10	0 ... 10,000	5
8	20	0 ... 10,000	5
9	40	0 ... 10,000	5
10	100	0 ... 10,000	5
11	200	0 ... 10,000	5
12	400	0 ... 10,000	5
13	1,000	0 ... 10,000	5
14	2,000	0 ... 10,000	5
15	4,000	0 ... 10,000	5
16	10,000	0 ... 10,000	5
17	20,000	0 ... 10,000	5
18	40000	0 ... 10,000	5
19	100000	0 ... 10,000	5

Range diagram



¹⁾ Velocity limit is determined by the selected measurement range of the velocity decoder.