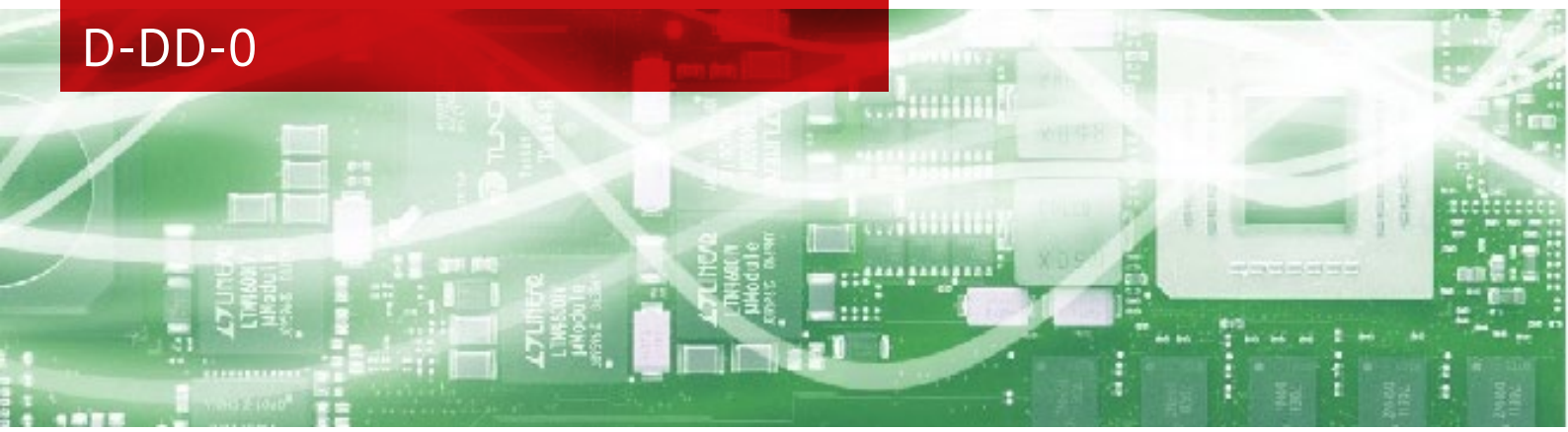
optomet.
LASER VIBROMETRY

Digital Displacement Decoder
D-DD-0



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 25 kHz
- Max. velocity up to 1 m/s
- Resolution down to 50 femtometers

Universal Basis Displacement Decoder

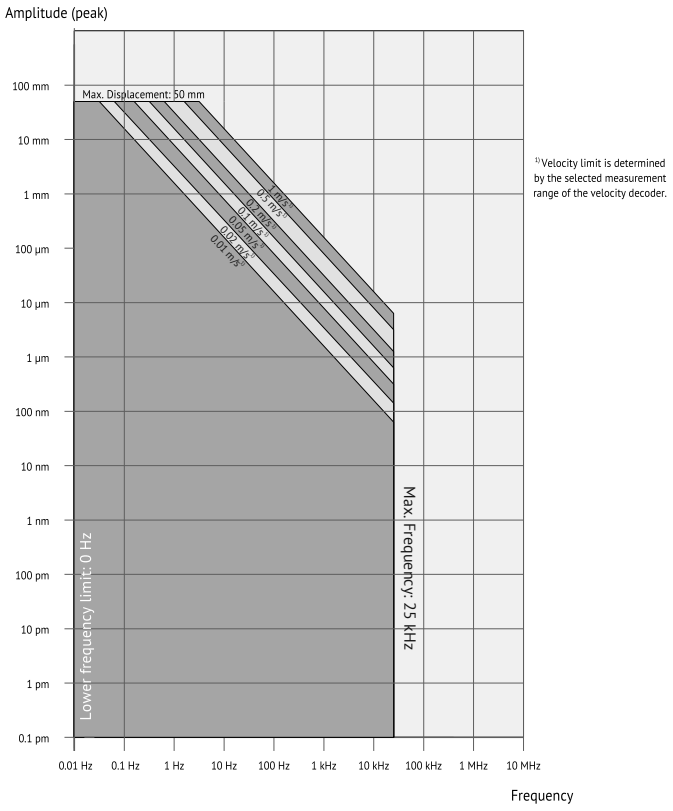
All vibrometers series feature by default a velocity decoder and can be supplemented with a suitable displacement and/or acceleration decoder.

The D-DD-0 displacement decoder is a versatile solution for various applications in noncontact vibration measurement. It features 19 displacement measuring ranges and can measure up to 25 kHz with a maximum velocity of the measured object of 1 m/s. Digital signal processing provides excellent linearity and measuring accuracy.
Required velocity decoder: D-VD-0

Technical data

Pos.	Full Scale Output (Peak to peak) µm	Signal Frequency Range kHz	Max. Velocity m/s
1	0.1	0 ... 25	1
2	0.2	0 ... 25	1
3	0.4	0 ... 25	1
4	1	0 ... 25	1
5	2	0 ... 25	1
6	4	0 ... 25	1
7	10	0 ... 25	1
8	20	0 ... 25	1
9	40	0 ... 25	1
10	100	0 ... 25	1
11	200	0 ... 25	1
12	400	0 ... 25	1
13	1,000	0 ... 25	1
14	2,000	0 ... 25	1
15	4,000	0 ... 25	1
16	10,000	0 ... 25	1
17	20,000	0 ... 25	1
18	40,000	0 ... 25	1
19	100,000	0 ... 25	1

Range diagram



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