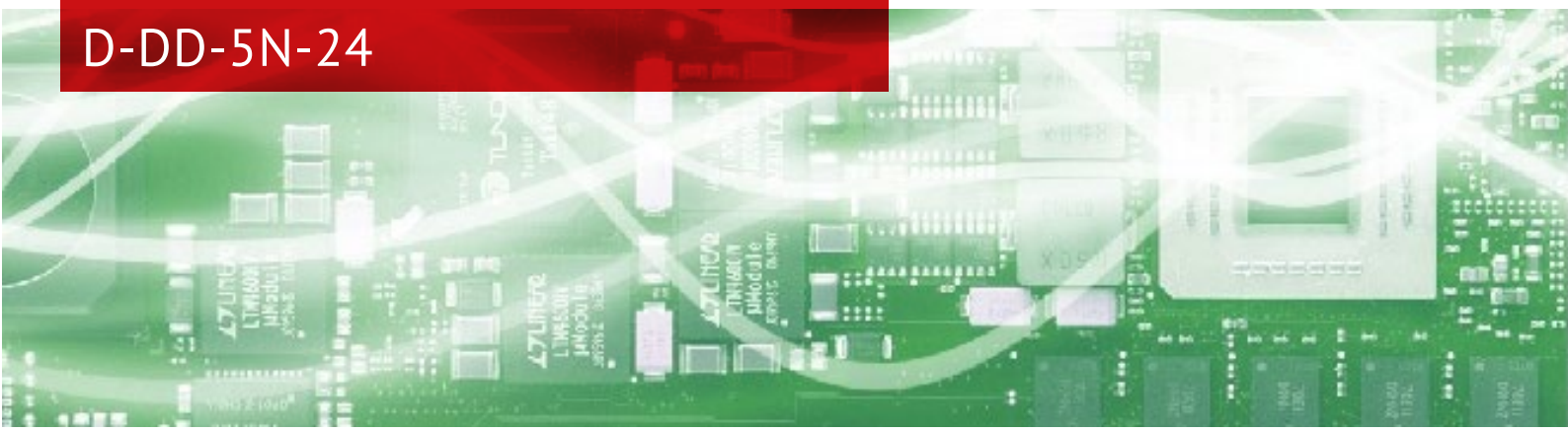
optomet.
LASER VIBROMETRY

Digital Displacement Decoder
D-DD-5N-24



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.

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HIGHLIGHTS:

- Digital decoder
- 19 displacement measuring ranges
- Frequency range: DC bis 24 MHz
- Max. velocity up to 30 m/s
- Resolution down to 50 femtometers

High-End Master Displacement Decoder 24 MHz

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

The D-DD-5N-24 expands the frequency bandwidth up to 24 MHz, is especially used for ultrasonic applications.
Required velocity decoder: D-VD-5N-24

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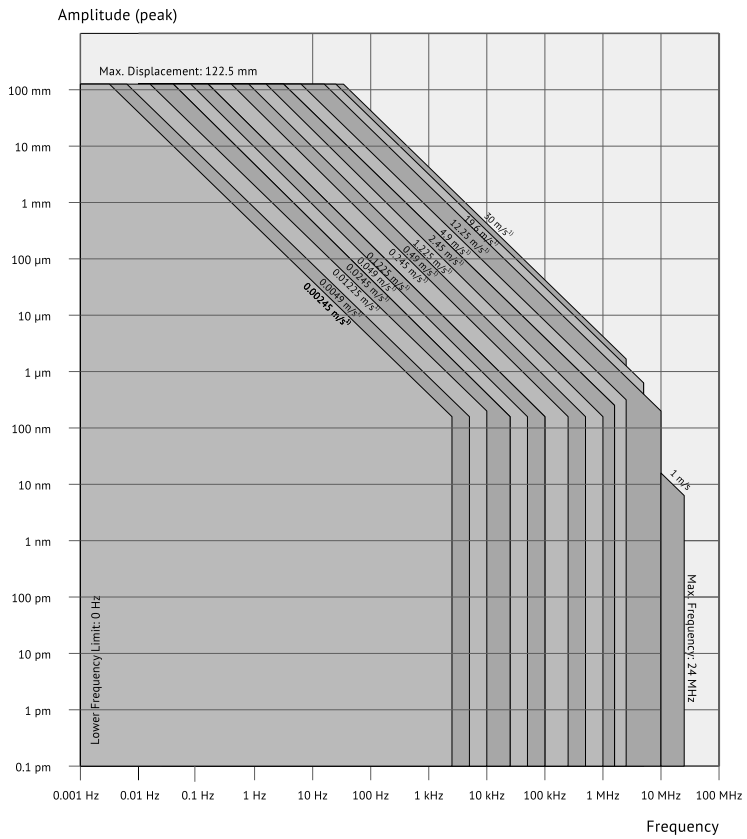
Technical data

Pos.	Full Scale Output peak to peak µm	Signal Frequency Range kHz	Max. Velocity* m/s
1	0.245	0 ... 24000	30
2	0.49	0 ... 24000	30
3	0.98	0 ... 24000	30
4	2.45	0 ... 24000	30
5	4.9	0 ... 24000	30
6	9.8	0 ... 24000	30
7	24.5	0 ... 24000	30
8	49	0 ... 24000	30
9	98	0 ... 24000	30
10	245	0 ... 24000	30
11	490	0 ... 24000	30
12	980	0 ... 24000	30
13	2,450	0 ... 24000	30
14	4,900	0 ... 24000	30
15	9,800	0 ... 24000	30
16	24,500	0 ... 24000	30
17	49,000	0 ... 24000	30
18	98,000	0 ... 24000	30
19	245,000	0 ... 24000	30

* Velocity limited to 1 m/s at frequencies above 10 MHz.

Range diagram



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