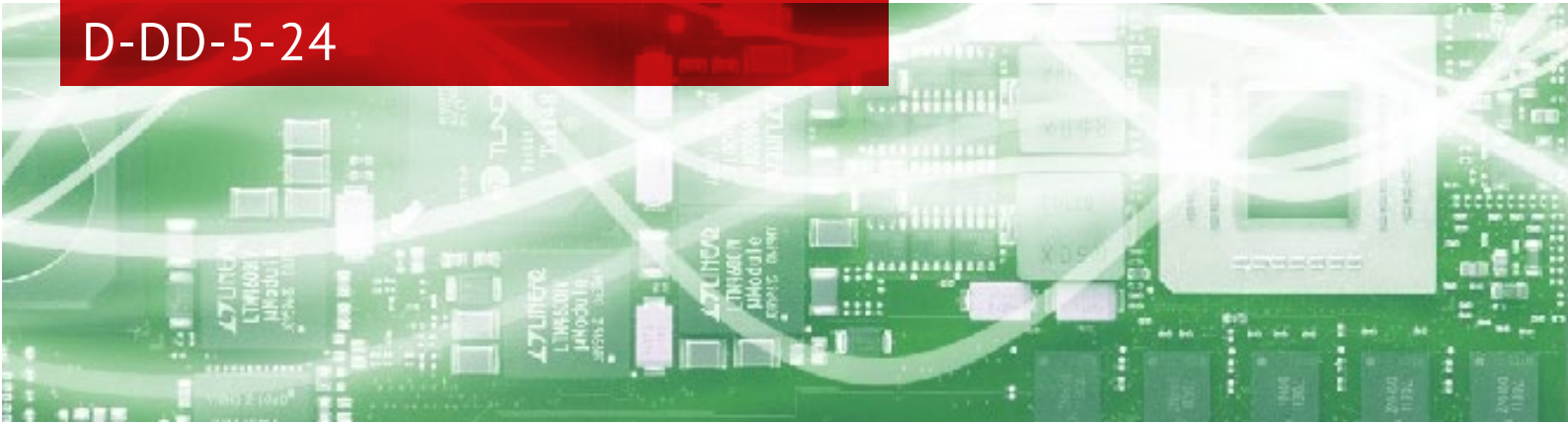




## Digital Displacement Decoder D-DD-5-24



### 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.



#### HIGHLIGHTS:

- Digital decoder
- 19 displacement measuring ranges
- Frequency range: DC bis 24 MHz
- Max. velocity up to 10 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-5-24 expands the frequency bandwidth up to 24 MHz, is especially used for ultrasonic applications.

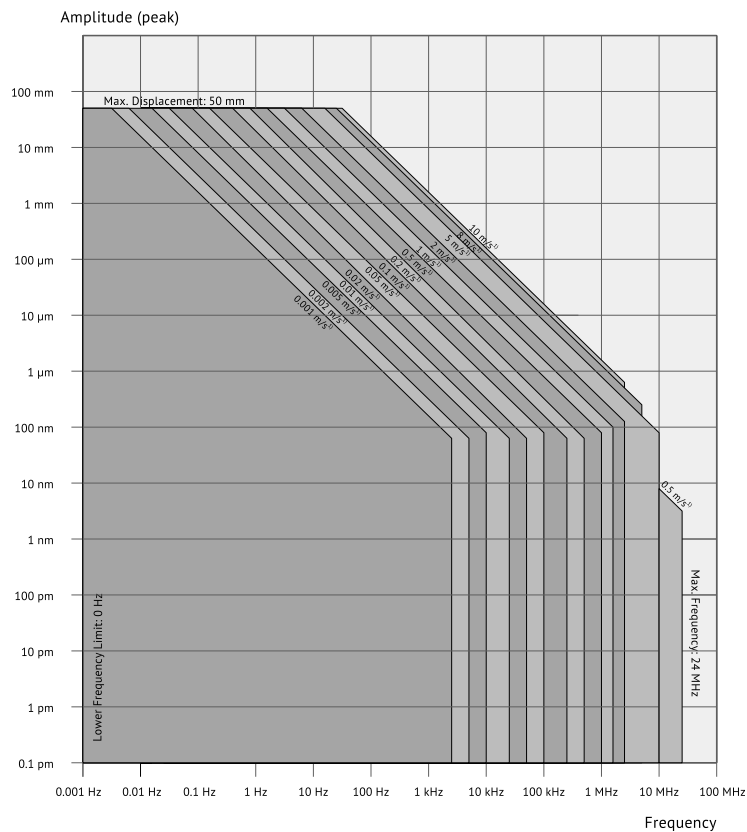
Required velocity decoder: D-VD-5-24.

# Technical data

Pos.	Full Scale Output (Peak to peak)	Signal Frequency Range	Max. Velocity*
	$\mu\text{m}$	kHz	m/s
1	0.1	0 ... 24,000	10
2	0.2	0 ... 24,000	10
3	0.4	0 ... 24,000	10
4	1	0 ... 24,000	10
5	2	0 ... 24,000	10
6	4	0 ... 24,000	10
7	10	0 ... 24,000	10
8	20	0 ... 24,000	10
9	40	0 ... 24,000	10
10	100	0 ... 24,000	10
11	200	0 ... 24,000	10
12	400	0 ... 24,000	10
13	1,000	0 ... 24,000	10
14	2,000	0 ... 24,000	10
15	4,000	0 ... 24,000	10
16	10,000	0 ... 24,000	10
17	20,000	0 ... 24,000	10
18	40,000	0 ... 24,000	10
19	100,000	0 ... 24,000	10

\* Velocity limited to 0.5 m/s at frequencies above 10 MHz.

## Range diagram



<sup>1)</sup> Velocity limit is determined by the selected measurement range of the velocity decoder.