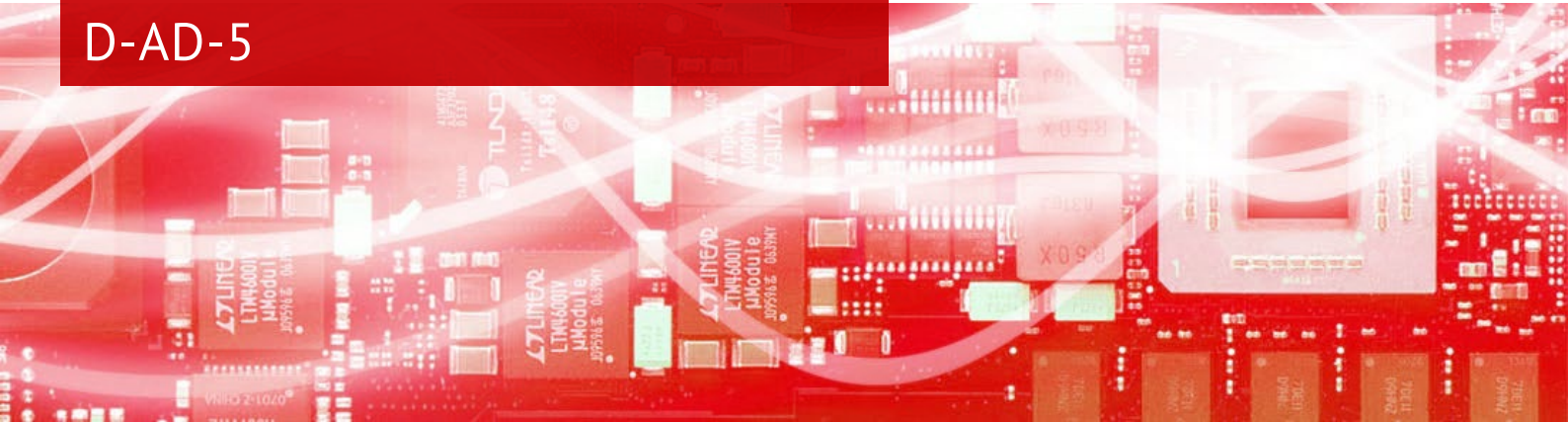




## Digital Acceleration Decoder D-AD-5



### 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
- 14 acceleration measuring ranges
- Frequency range: 0 Hz - 10 MHz
- Max. acceleration 32,000,000 g
- Best acceleration resolution 1.8  $\mu\text{g} / \sqrt{\text{Hz}}$ \*

### High-End Acceleration Decoder

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

The D-AD-5 acceleration decoder was specially developed for use with velocity decoder D-VD-5. It expands the laser Doppler vibrometers of the Vector Series with the capability of a real-time output of the acceleration value.  
Required velocity decoder: D-VD-5

\* 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

| <b>Pos.</b> | <b>Full Scale Output (Peak)</b><br><b>g</b> | <b>Max. Frequency</b><br><b>kHz</b> | <b>Max. Velocity</b><br><b>m/s</b> |
|-------------|---|-------------------------------------|------------------------------------|
| 1           | 1.6   | 2.5                                 | 10                                 |
| 2           | 6.4   | 5                                   | 10                                 |
| 3           | 32  | 10                                  | 10                                 |
| 4           | 160   | 25                                  | 10                                 |
| 5           | 640   | 50                                  | 10                                 |
| 6           | 3,200                                       | 100                                 | 10                                 |
| 7           | 16,000                                      | 250                                 | 10                                 |
| 8           | 64,000                                      | 500                                 | 10                                 |
| 9           | 320,000                                     | 1,000                               | 10                                 |
| 10          | 960,000                                     | 1,500                               | 10                                 |
| 11          | 3,200,000                                   | 2,500                               | 10                                 |
| 12          | 32,000,000                                  | 10,000                              | 10                                 |
| 13          | 25,600,000                                  | 5,000                               | 10                                 |
| 14          | 16,000,000                                  | 2,500                               | 10                                 |