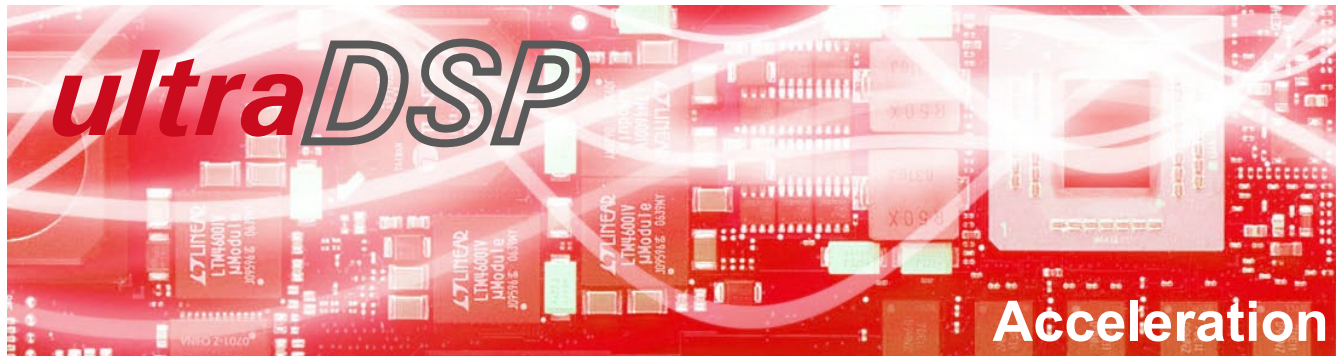


Digital Acceleration Decoder D-AD-1N



ultraDSP Technology - Ultrafast digital signal processing (ultraDSP)

OptoMET offer a complete line of vibrometer digital decoders. Compared to their analog counterparts, digital decoders offer much better precision, resolution, aging resistance, and sensitivity. The user can thus measure vibrations / dynamic motion (even very small amplitudes) with high precision. Practical applications also benefit from the excellent low-noise digital signal processing that allows measurements on nearly all types of surfaces and from a large distance.

OptoMET has implemented its ultrafast digital signal processing technology (ultraDSP), which combines efficient algorithms with extremely powerful hardware, to achieve exceptional resolution, high frequency bandwidths and extremely large dynamic range of up to 9 decades for velocity measurements (nm/s - m/s).

Acceleration decoders

OptoMET offers a range of digital decoder options that can be used to upgrade or expand all models so that you can tailor them to your measuring requirements.

Each vibrometer can also be equipped with an acceleration decoder in addition to the velocity decoder already installed. These decoders produce a real-time output signal that is proportional to the acceleration of the measured object. Depending on the performance class, these decoders have a working frequency range of up to 10 MHz.

D-AD-1N Features:

- Digital Decoder
- 8 acceleration measuring ranges
- Max. frequency up to 500 kHz
- Max. acceleration 1,600,000 g
- Best acceleration resolution $90 \mu\text{g} / \sqrt{\text{Hz}}^*$
- Max. permissible velocity of the measured object 5 m/s

Technical data

The D-AD-1N acceleration decoder is tailored to match with the velocity decoder D-VD-1N, and allows acceleration measurements up to 1,600,000 g at a maximum of 500 kHz and 5 m/s.

D-AD-1N technical data

| Pos. | Full Scale Output (Peak) g | Max. Frequency kHz | Max. Velocity m/s |
|------|-------------------------------|-----------------------|----------------------|
| 1 | 392 | 25 | 5 |
| 2 | 1,560 | 50 | 5 |
| 3 | 7,800 | 100 | 5 |
| 4 | 39,200 | 250 | 5 |
| 5 | 156,000 | 500 | 5 |
| 6 | 392,000 | 500 | 5 |
| 7 | 784,000 | 500 | 5 |
| 8 | 1,600,000 | 500 | 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.