

## OMS LaserPoint LP01 Laser Doppler Vibrometer



### OMS LaserPoint LP01 Laser Vibrometer Features

The OMS LaserPoint LP01 Laser Vibrometer is an easy-to-use precision instrument for non-contact vibration measurement of any surface. The system can be instantly used by aiming the laser beam at a target at any distance up to five meters, without the need for any optical or mechanical adjustments. The system output is an analog voltage that is directly proportional to the target velocity, and can be easily viewed with an oscilloscope, spectrum analyzer, or data acquisition system. The LaserPoint Laser Vibrometer includes two velocity ranges and an array of low pass filter options to optimize the quality of the output signal.

The OMS LaserPoint LP01 Vibrometer is based on innovative laser diode technology that uses a self-mixing architecture with no external lenses and a minimal number of optical components. This results in an extremely robust and compact vibrometer that can function well in harsh environments.

- Compact, Robust, Field Tested Design
- Easy Point and Measure Operation
- No Beam Focusing or Surface Treatment Required
- Convenient Analog Voltage Output
- Mature and Proven Technology

# Specifications

The OMS LaserPoint LP01 Vibrometer is based on a patented electro-optical configuration. The system consists of two components, an optical head and an electronic controller, which are connected by a cable.

The optical head contains a near-infrared laser diode with a built-in high speed photo-detector, an acousto-optic modulator, and a red laser diode to aid in aiming the beam. The controller contains a demodulator, a signal strength indicator, two selectable velocity ranges, and an array of low pass filter options.

## **Velocity Range**

3  $\mu\text{m/s}$  to 800  $\text{mm/s}$ <sup>1</sup>

## **Vibration Frequency Range**

0.01 Hz to 20 kHz<sup>2</sup>

## **Working Distance**

1 cm to 5 m

## **Displacement Range**

0.04 nm (at 20 kHz) to 120 mm (at 1 Hz)

## **Optics**

Collimated (No Focusing Needed)

## **Surface Reflectivity**

Realistic Surfaces

## **Signal Output**

Analog Velocity and 10.7 MHz FM Outputs

## **Dimensions**

Laser Head: 24 x 11.4 x 7.6 cm

Electronic Controller: 30 x 22 x 6 cm

## **Weight**

Laser Head: 1.4 kg

Electronic Controller: 3.9 kg

**Low Pass Filters**

1,2,5,10,20 kHz

**Output Voltage (max)**

± 10 Volts

**Laser**

780 nm, <15mW, Class IIIb

650 nm, <1mW, Class II

**Power Requirement**

100 to 230 VAC at 50/60 Hz

**Temperature Range**

3 - 45°C