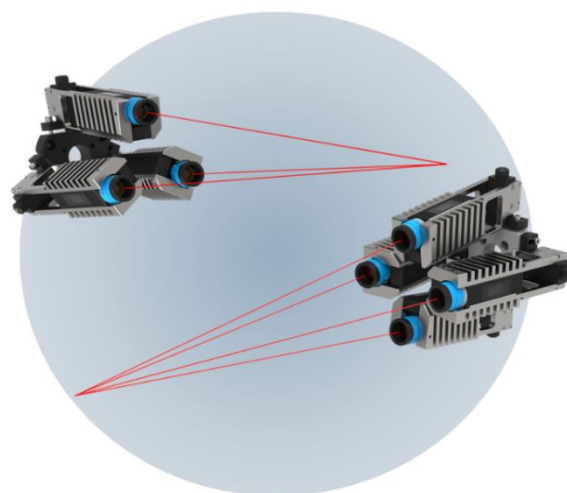


MotionGo 3D

Micro 3D Laser Doppler Vibrometer

■ Product Introduction

The MotionGo 3D Micro 3D Laser Doppler Vibrometer by OmniSensing Photonics is a high-end vibration-measuring instrument. It takes an integrated optical chip as the core and combines a compact appearance with precise homodyne interference and phase-discrimination demodulation algorithms. It is designed to provide high - precision, non- contact 3D vibration - measuring solutions for various fields such as NVH, university scientific research, industrial manufacturing, and material research. Compared with traditional single-point laser Doppler vibrometers, the MotionGo 3D can accurately obtain the vibration displacement, velocity, and acceleration information of the target object in the X, Y, and Z directions through professional 3D coordinate calibration and transformation algorithms. It fully presents the real vibration state of the object in space and provides comprehensive data support for complex structural dynamics analysis and multi-degree-of-freedom system modal analysis.



The MotionGo 3D is significantly different from other similar products. It features a small size, light weight, and low energy consumption. Its total weight is merely a fraction of that of similar products, amounting to just a few tenths. Such small size makes it easier to be integrated into automated devices like robotic arms and gimbals. The MotionGo 3D has high adaptability and expandability, can provide customers with two signal output methods, digital and analog, facilitating customers to integrate domestic and foreign data acquisition instruments for 3D vibration measurement and modal measurement. In addition, to meet the personalized needs of customers, OmniSensing Photonics can provide customers with an SDK software development kit for secondary software development.

■ Product Features

- Based on silicon-based optical chips
- Non-contact vibration measurement
- 3D spatial measurement capabilities
- Small size, light weight, easy to integrate
- Professional 3D coordinate calibration and transformation algorithms
- High adaptability and expandability, supporting joint debugging with domestic and foreign data acquisition devices
- Convenient operation and multiple-format data output

■ Application Fields



3D modal measurement

NVH measurement

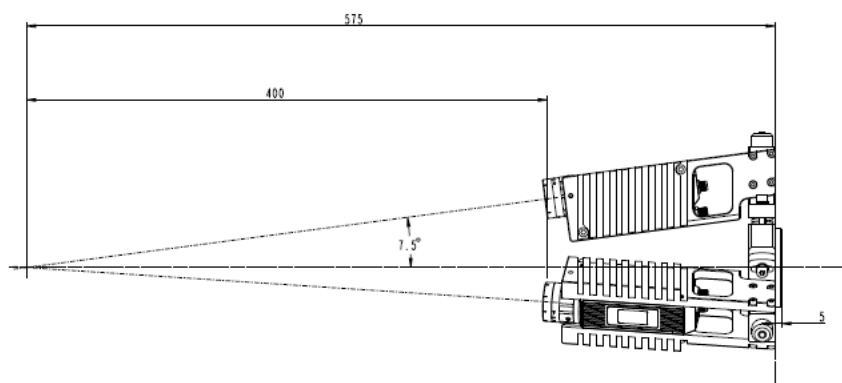
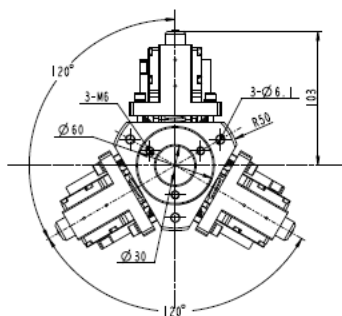
Material analysis

Dynamics analysis

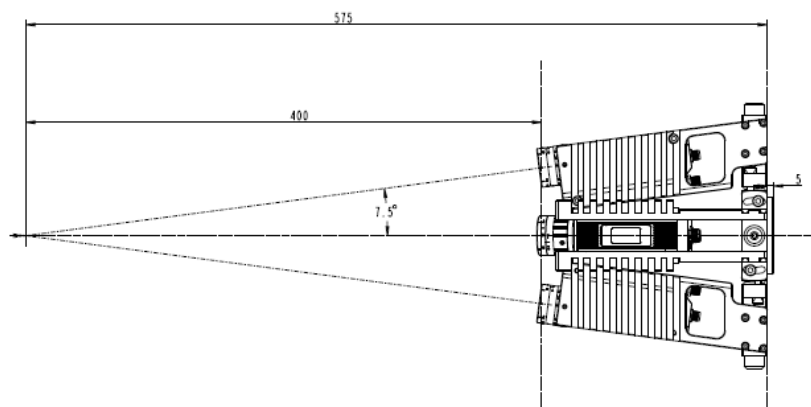
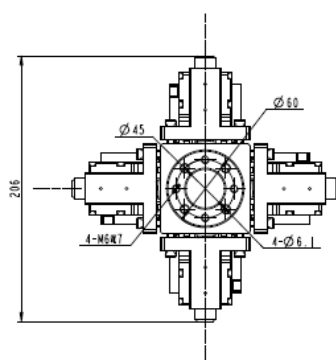
■ Performance Parameters

Model	MotionGo 3D	MotionGo 3D Pro
Working Distance (cm)	40 (or customizable)	40 (or customizable)
Working Depth of Field (cm)	±0.5 (at 40cm working distance))	±0.5 (at 40cm working distance)
Measurement Frequency Range (Hz)	DC-500k	DC-2.5M(Depends on ETR)
Out-of-plane Displacement Resolution (nm)	100	10
In-plane Displacement Resolution (nm)	10	1
Velocity Resolution (mm/s)	0.1	0.1
In-plane Velocity Measurement Range (m/s)	12	12
Out-of-plane Velocity Measurement Range (m/s)	1.5	1.5
X/Y/Z Displacement Test Accuracy	<5% FS	<3% FS
Sampling Output Rate (sps)	5M	50M
Measurement Light Wavelength (nm)	1310	1310
Indicator Light Wavelength (nm)	655	655
Lens Focusing	Fixed - focus	Fixed - focus
Data Connection Interface	Ethernet	Ethernet
Number of Channels	3 channels	5 channels
Precision Calibration Algorithm	None	Yes
Power Supply Method (V)	DC 5-20	DC 5-20
Weight (g)	<900	<1500
Protection Class	IP63	IP63

■ Product Outline and Dimensions (Unit: mm)



MotionGo 3D



MotionGo 3D Pro