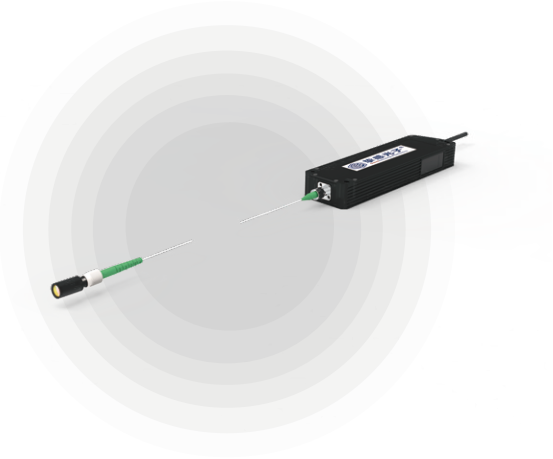
MVF-10

Fiber optic laser Doppler vibrometer



Product introduction

OmniSensing Photonics introduces the MVF-10, equipped with a fiber optic front-end, specifically designed to measure the vibration displacement of objects within confined spaces effectively. The fiber test header of this device is distinguished by its compact size, lightweight construction, and straightforward installation process. These features substantially enhance the usability of laser Doppler vibrometers in environments where space is restricted, offering a practical solution for precise vibration analysis in challenging settings.

The Fiber Optic Laser Doppler Vibrometer module comprises the main vibrometer unit, an integrated polarizing fiber, and a polarizing lens. It is capable of analyzing frequencies exceeding 1MHz and can operate at a testing distance of up to 10cm. The module is complemented by the OSP testing and analysis software, which is user-friendly and supports multi-channel synchronous testing, facilitating comprehensive vibration analysis in a variety of settings.

Product application

- Mechanical vibration fault diagnosis.
- Microstructure object displacement testing.
- Vibration Testing in Confined Spaces.
- Online Quality Inspection of Products.

Product Features

- 1310nm Laser source.
- Integrated silicon photonics chip.
- Providing user SDK for secondary development.
- Non-contact Testing.
- Supports multi-channel synchronous testing.
- Smart sensor with built-in signal processing capability.

Application scenarios

Engine Blade Vibration Measurement

Machinary Vibration Monitoring

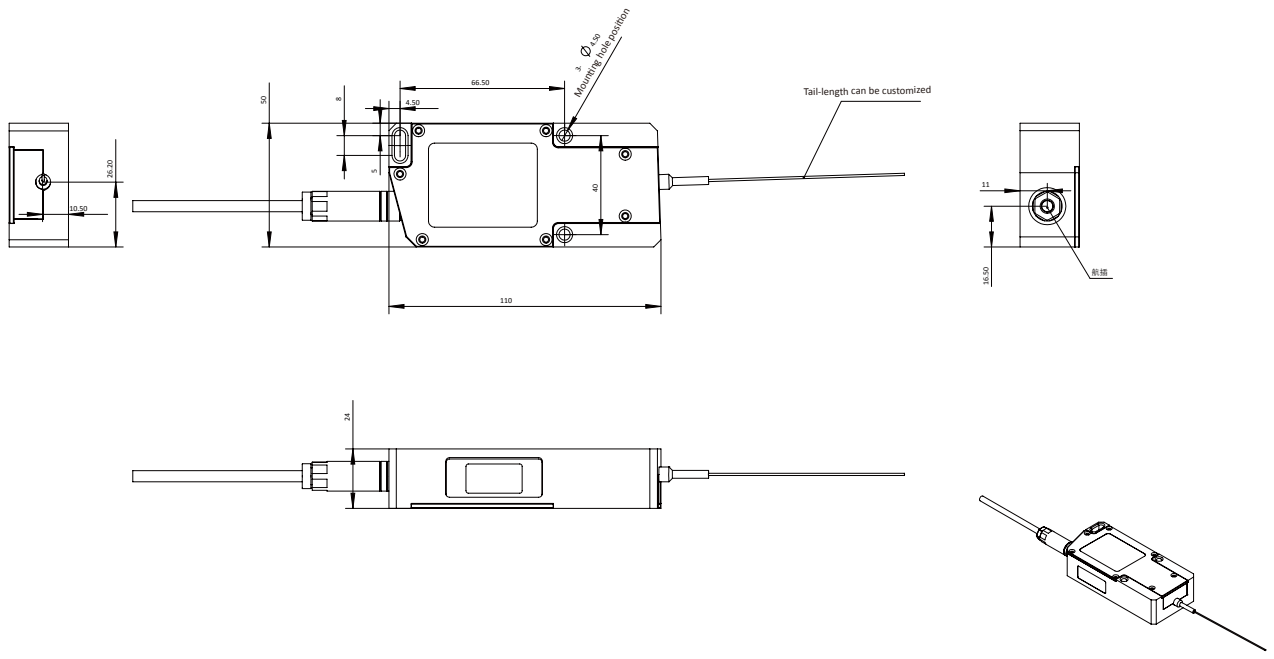
Distributed vibration monitoring

Performance parameters

Basic parameters			
Parameters (unit)	Values	Parameters (unit)	Values
Measurement distance(m)	0.1~0.2(Depends on the installed lens)	Measurement frequency range(Hz)	10~2.5M
Displacement noise density(pm/ √Hz)	1（0.5 Optical fiber）	Velocity range(m/s)	Max 4.5
Displacement resolution(nm)	0.05	Displacement repeatability(nm)(>10Hz)	0.1
Laser(nm)	1310(Measurement light)	Measuring laser output power(mW)	<5
Measuring laser safety level	CLASS Ⅰ	Indicates laser output power	Adjustable
Optical interference(lux)	>60000	Protection level	IP64
Operating temperature range(℃)	0~50	The shell material	Aluminum alloy
Power supply voltage(V)	12	Power consumption(W)	<1.5
Digital output signal interface	100BaseT Ethernet	Fiber length (m)	0.5 or FC/APC interface
Trigger signal	Rising edge	Network synchronization signal(Hz)	1Hz square wave
Trigger/Sync interface selection	Input and output	Synchronization accuracy(us)	0.1
Dimensions (mm) (Length * Width * Height)	110X25X50	Weight(g)	400

Product outline and dimensions

UNIT：mm



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