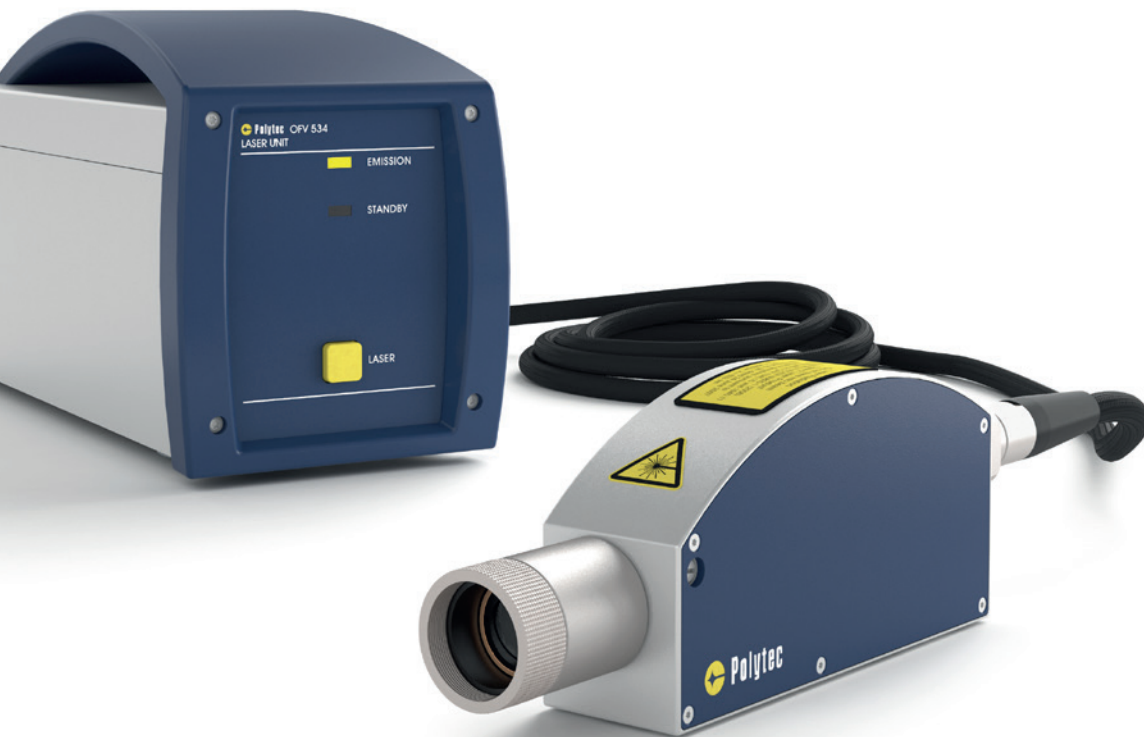


## OFV-534 Compact Sensor Head

Fitting a heterodyne laser interferometer into an extraordinarily small package is only one of many design triumphs that sets the OFV-534 Compact Sensor Head apart from its competition.

Further highlights are the integrated CCD video camera to improve test sample monitoring and laser spot positioning. Optional microscope objectives enable the measurement of microstructures with a micron-sized laser spot.

These and other remarkable design features permit applications ranging from fast in-line quality control to precise R&D measurements.



### Highlights

- Compact, ruggedized design (IP64)
- Easy-to-use “point & measure”
- Eye-safe laser and electronic shutter
- High optical sensitivity
- Optional CCD video camera for visually monitoring the structure under test
- Enables micro inspections with in-line illumination and 1.5  $\mu\text{m}$  laser spot

## OFV-534 Compact Sensor Head

Compactness Meets Versatility

Datasheet



# Technical Data



## Optical Specifications

Laser type	Helium Neon (HeNe)
Laser class	Class 2, < 1 mW, eye-safe
Laser wavelength	633 nm, visible red laser beam
Minimum stand-off distance	200 mm (with standard objective lens)
Maximum stand-off distance	Surface dependent
Visibility maxima <sup>1</sup>	91 mm + n · 204 mm; n = 0; 1; 2; ...

<sup>1</sup> Measured from the front edge of the sensor head housing.

## Video Camera (optional)

Camera type	1/4" CCD Color Board Camera
Active pixels (H x V)	510 x 492
Lens aperture	F 4.5
Shutter speeds	Automatic from 1/60 to 1/100,000
Video output	Composite (CVBS), 1 Vp-p @ 75 Ohm, BNC

Objective Lens		20x <sup>1</sup>	10x <sup>2</sup>	Standard					
Stand-off distance <sup>3</sup>	mm	21.7	37.3	200	300	500	1,000	2,000	each m
Laser depth-of-field	mm	0.012	0.048	±1	±3	±10	±40	±170	–
Spot diameter (1/e <sup>2</sup> )	µm	1.5	3.0	25	40	70	148	302	add 150
Camera field of view	mm x mm	0.68 x 0.52	1.36 x 1.04	10 x 8	17 x 13	31 x 24	64 x 49	130 x 100	–

<sup>1</sup> VIB-A-20xLENS

<sup>2</sup> VIB-A-10xLENS

<sup>3</sup> Measured from the front edge of the sensor head housing. For 10x- and 20x microscope lens measured from the front edge of the lens.

## General Specifications

	Compact Sensor Head	Laser Unit
Dimensions (L x W x H)	201 x 39 x 71 mm (7.9 x 1.5 x 2.8 in)	321 x 120 x 154 mm (12.6 x 4.7 x 6.1 in)
Weight	1 kg (2.2 lbs)	4.2 kg (9.3 lbs)
Housing protection	IP64	IP40
Power consumption	max. 3 W	max. 15 W
Cable length	3 m (to Laser Unit)	
Ambient temperature	+5 °C ... +40 °C (41 °F ... 104 °F)	
Storage temperature	+10 °C ... +65 °C (14 °F ... 149 °F)	
Relative humidity	max. 80%, non-condensing	
Compatibility	OFV-5000, OFV-2520, OFV-2570 Vibrometer Controller, VDD-E-600 Digital Front-End	

Compliance with standards	
Laser safety	IEC/EN 60825-1; CFR 1040.10 and 1040.11
Electrical safety	IEC/EN 61010-1
EMC	IEC/EN 61326-1



## Options and Accessories

Optical Accessories	
OFV-A-534-CAM <sup>1</sup> OFV-A-534-CAM-LF <sup>1</sup>	Integrated Video Camera providing an NTSC output signal LF Laser Filter option for best laser spot visibility
OFV-A-534-CAP <sup>1</sup> OFV-A-534-CAP-LF <sup>1</sup>	Integrated Video Camera providing a PAL output signal Laser Filter option for best laser spot visibility
VIB-A-10xLENS	10x microscope objective providing a laser spot diameter of 3 µm at 37.3 mm stand-off distance
VIB-A-20xLENS	20x microscope objective providing a laser spot diameter of 1.5 µm at 21.7 mm stand-off distance
VIB-A-510 Illumination Unit	LED light source providing a coaxial illumination of the test object. The illumination unit is highly recommended in conjunction with the microscope objectives
VIB-A-530 Side Exit Head	90° deflection of the laser beam
VIB-A-531 Side Exit Head	90° deflection of laser beam and for viewing the video image

<sup>1</sup> Must be ordered in advance, no retrofitting possible.

Polytec offers a wide range of accessories including tripods, tilt and traverse stages for mounting and positioning fiber heads.

Please contact your local vibrometer sales engineer or visit our website [www.polytec.com/vibrometers](http://www.polytec.com/vibrometers) for more detailed information.



**Laser Radiation**  
**Do not stare into beam**  
**Class 2 Laser Product**  
 According to IEC/EN 60825-1 (2008)  
 Complies with 21 CFR 1040.10 and 1040.11  
 except for deviations pursuant to  
 Laser Notice no. 50, dated 24 June 2007  
 $P \leq 1 \text{ mW/cw}$ ;  $\lambda = 633 \text{ nm}$



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