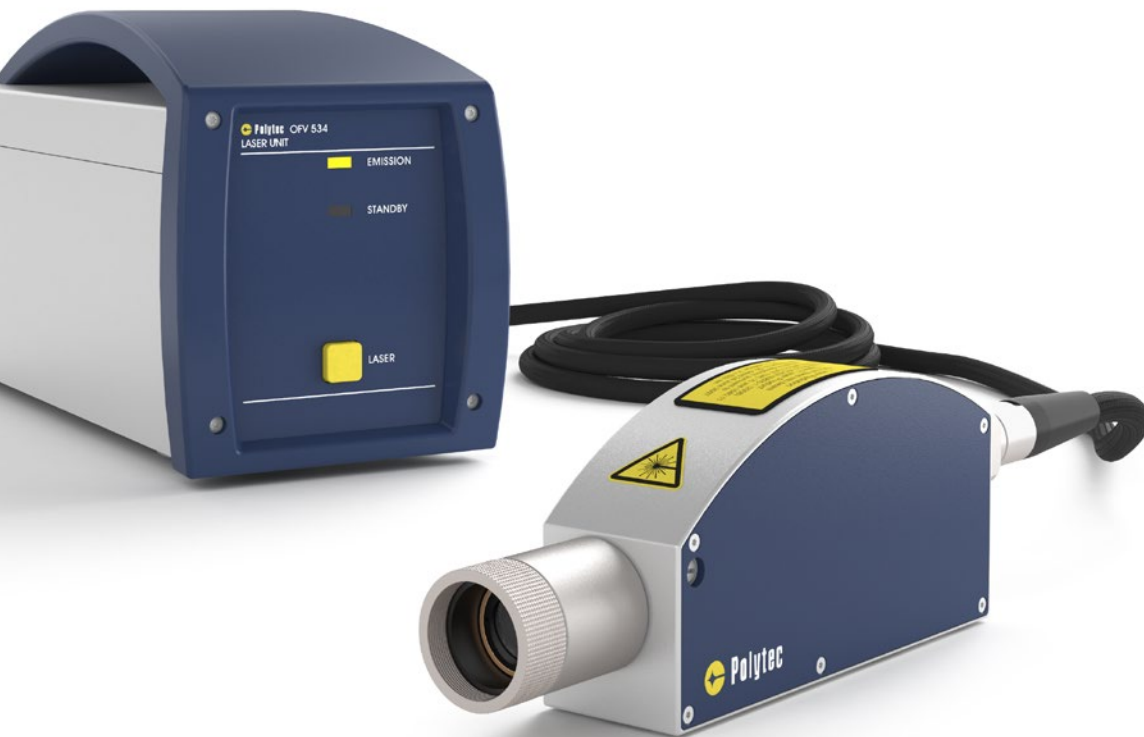


OFV-534 Compact Sensor Head

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 probe 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 μm 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 | depends on surface |
| Visibility maxima ¹ | 91 mm + n · 204 mm; n = 0; 1; 2; ... |

¹ 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 ¹ | 10x ² | Standard | | | | | |
|-----------------------------------|---------|------------------|------------------|----------|---------|---------|---------|--------------|---------|
| Stand-off distance ³ | 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 ²) | 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 | – |

¹ VIB-A-20xLENS

² VIB-A-10xLENS

³ 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

| Component | 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 |

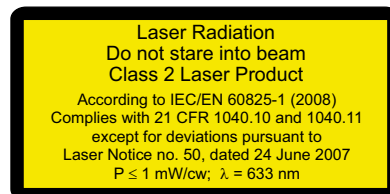
Options and Accessories

Optical Accessories

| | |
|---|---|
| OFV-A-534-CAM ¹ OFV-A-534-CAM-LF ¹ | Integrated Video Camera providing an NTSC output signal LF Laser Filter option for best laser spot visibility |
| OFV-A-534-CAP ¹ OFV-A-534-CAP-LF ¹ | 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 video image |

¹ Obligatory to be ordered in advance, no retrofitting possible.

For our vast options of positioning equipment and more information, please visit our website www.polytec.com/vibrometers or contact your local Polytec sales or application engineer.





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