FDM-3

Laser Interferometer

www.fionec.com

Compact measurement system for precision applications

Non-Contact Displacement and Distance Measurement

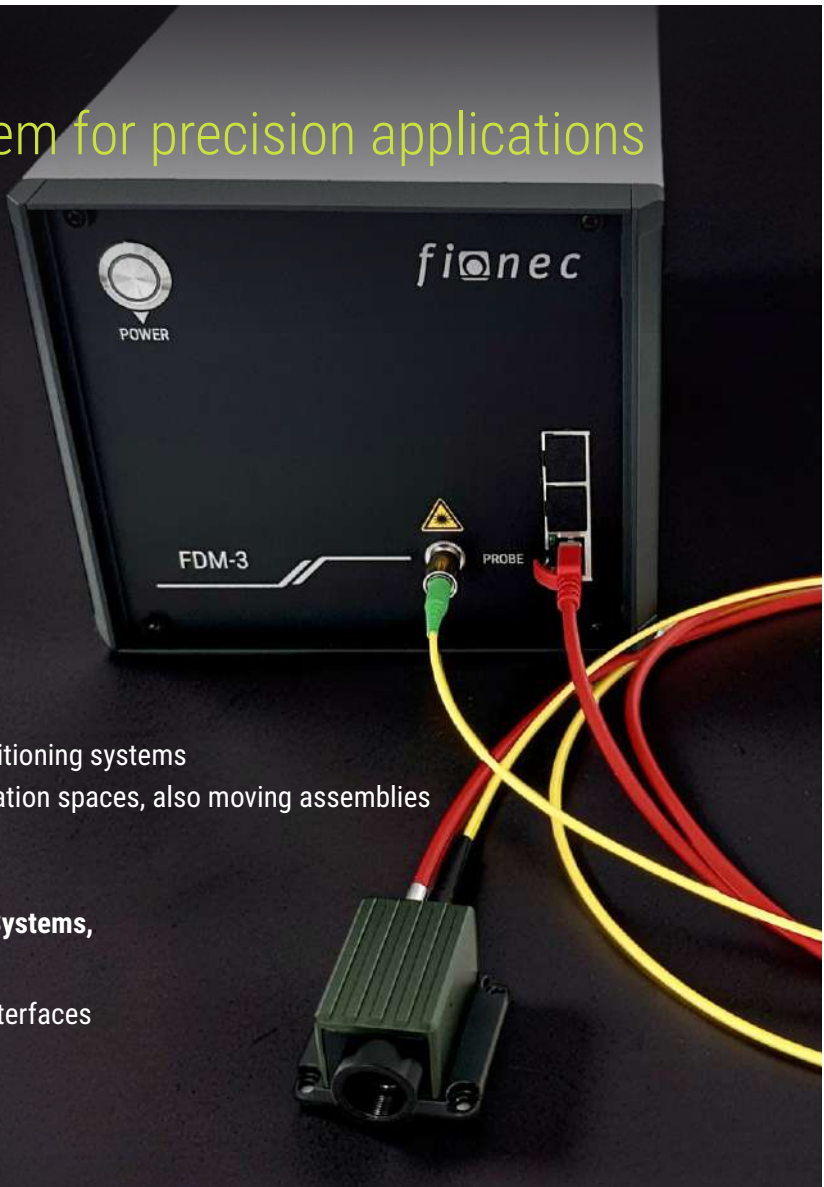
- ✓ Fast detection of displacement and distance changes
- ✓ Flexible integration into measurement and inspection systems
- ✓ Up to 3 sensor heads can be operated simultaneously
- ✓ Intuitive software with rapid-start functionality
- ✓ Measurement of displacement, expansion, drift, and vibrations in precision and production equipment
- ✓ Position detection for alignment of components, assemblies, and axes

Monitoring of Distances and Positions

- ✓ Monitoring of motion sequences in precision and positioning systems
- ✓ Measurements in confined and hard-to-access installation spaces, also moving assemblies
- ✓ Continuous position monitoring

Integration into Measurement Instruments, Inspection Systems, and Industrial Equipment

- ✓ Compatibility and automation through configurable interfaces
- ✓ Single-point and multi-point measurements
- ✓ Inline measurements in production environments



Laser Interferometer for Non-Contact Measurements

The FDM-3 laser interferometer from fionec enables non-contact displacement and distance measurements in industrial environments. Up to three compact and lightweight sensor heads can be operated simultaneously and integrated flexibly into existing measurement and inspection systems. With measurement distances of up to 0.6 m per sensor head, the system is suitable for a wide range of displacement and positioning tasks in manufacturing and inspection environments. The measurement rate of 40 kHz, integrated interfaces, and customized software solutions support seamless integration into automated processes.

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fionec
fiber optic sensor technologies

Technical Data

Laser Interferometer

Measurement principle	phase-measurement interferometry
Measurement range	up to 0.6 m
Working distance	any (between 0-0.6 m)
Measuring frequency	40 kHz (fixed)
Distance-equivalent noise	< 1 nm at 0.1 m measurement distance
Multi-point measurement	parallel operation of up to 3 measurement heads
Included components	measurement head, user interface software (basic), receiver, power supply
Software	FDMControl (Control) / Fiometrics (Evaluation)
Programming interfaces	API, DLL
System interfaces (configurable)	Gate IN, Trigger OUT: TTL 5V, Ethernet, GPIO
Power Supply	100–240 V AC, 50/60 Hz
Ext. power supply	100–240 V AC, 50/60 Hz
Dimensions control unit	165 x 140 x 255 mm

Measurement Head

Objektiv	interchangeable, for collimated or focused operation
Measurement direction	axial (0°)
Environmental measurement module (optional)	completely integrated
Dimensions measurement head	38 x 26 x 21 mm

We develop tailor-made solutions for a wide range of applications and requirements. Feel free to contact us.

Your benefits

✓ High-resolution non-contact displacement and distance measurements
✓ Non-contact and wear-free operation
✓ Compact sensor heads and receiver unit
✓ Up to 3 sensor heads per system, e.g. for X, Y, and Z measurements
✓ Flexible integration into measurement and inspection systems
✓ Electromagnetic compatibility (EMC)

FDM-3 laser interferometer
with measurement head

User interface software
(FDM-Control)

Over 15 Years of Sophisticated Fiber Optic Technology

fionec has been developing, manufacturing and marketing innovative fiber optic measuring systems and components since 2007. We provide a complete and integrated range of services, from the development of customized measuring concepts and algorithms, simulations and contract measurement projects to the construction, adaptation and distribution of fiber optic measuring probes and optical fibers.

Our sophisticated miniature measuring probes are unrivaled in the high-tech industry, allowing us to maintain the technological leadership in high-precision measurements of tight or hard-to-access spaces and of delicate surface structures. Flexible and modular systems architecture, freely adaptable configurations and integrated interfaces enable us to provide customized measuring systems. For sophisticated measuring tasks and reliable quality assurance in the precision and ultra-precision manufacturing sector.