SP 5000 DI
Product information

Extremely stable laser interferometer for high-precision length or angle measurements
SP 5000 DI

Our ultra-stable differential laser interferometer SP 5000 DI is characterised by its unique thermal stability and can be used for long-term measurements in research and development, such as for material testing.

Thanks to its design, with an external reference beam, the measurement system can be placed at a longer distance from the measurement location without significantly affecting the resolution or stability of the measurement. The length resolution of the interferometer is 5 pm and this can be achieved even under normal laboratory conditions thanks to the differential principle of the measurement system.

The measurement range for length measurement is several meters if tilt-invariant reflectors are used for the measurements. The system has a modular design and can therefore be adapted to specific measurement tasks.

Adjustments can be made simply and with long-term stability. The construction of multi-axis systems on the basis of the SP 5000 DI interferometer also allows multi-coordinate measurements.

\[ \text{2 m with plane-mirror} \quad 0.1 \text{ ppm} \quad \text{5 m with reflector} \quad \pm 1.5 \text{ arcmin with plane-mirror} \quad \pm 5^\circ \text{ with reflector} \quad 0.001 \text{ arcsec} \]
MEASURING PRINCIPLE

For customer-specific versions or integration in special measurement equipment, please contact us.

Further possible applications:

• The differential laser interferometer is available as an OEM version for installation as an encoder in machine axes. The SP 5000 DI is also available as a vacuum-optimised version for taking measurements in a vacuum.
• The standard beam distance is 21 mm. We can provide other beam distances on enquiry.

Ideal for

• Long-term measurements
• Development
• Science/research
• OEM applications
• Exacting stability requirements
For customer-specific versions, OEM applications or integration in special measurement stations, please contact us.

We will be happy to personally assist you in finding solutions for your measuring tasks.

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www.sios-de.com/products/length-measurement/differential-interferometer

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