

Photoelastic Modulator Main Spindle



Overview

Photoelastic modulator is applied for changing the polarization state of light, and make the transmitted light have a dynamic phase retardation. The light-passing part of the device is made of isotropic material, which periodically vibrates at an inherent resonant frequency. Hence photoelastic modulators are used for measurement of circular and linear dichroism, birefringence, optical rotation. Photoelastic modulators (PEMs) are key components in a diverse range of photonics applications. Hence Instruments are the world leader based on the principles of polarisation modulation. The dielectric constants (then.

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Photoelastic modulators from Hinds Instruments are key components of photonics applications, and are a key piece in a wide range of polarization-based measurements.



Both polarizers are held fixed during the measurement while the photoelastic modulator is used to induce a modulated phase shift of the reflected beam. The light is analyzed by a grating ...



The principle of operation of photoelastic modulators is based on the photoelastic effect, in which a mechanically stressed sample exhibits birefringence proportional to the resulting strain. Photoelastic modulators are resonant devices where the precise oscillation frequency is determined by the properties of the optical element/transducer assembly. The transducer is tuned to the resonance frequency of the optical element along its long dimension, determined by its length and the speed of sound in the mater...



Photoelastic Modulators (PEMs): A Comprehensive Overview Photoelastic modulators (PEMs) are sophisticated optical devices that utilize the photoelastic effect to dynamically alter the polarization ...



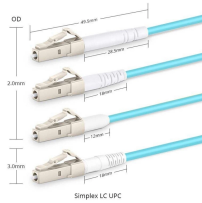
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What is a Photoelastic Modulator (PEM) and how does it work? A Photoelastic Modulator (PEM) is an optical device that modulates the polarisation of light to gain information about mechanical stresses ...



This is why even an isotropic material like glass shows a first-order photoelastic effect, but cannot show a first-order electro-optical effect. If the input light to the elastic modulator is linear-polarized ® ...



PEMs produced by CASTECH have the advantages of large acceptance angle, large aperture, wide wavelength range, high modulation frequency, and high precision. According to the working mode, ...

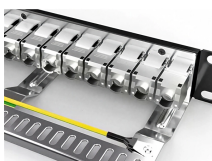


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Length: 39.5mm
Small-end inner diameter: 2.0mm
Large-end inner diameter: 5.0mm
Outer diameter: 5.65mm (±0.05mm)

View an Animated Tutorial of PEM Principles of Operation. The phenomenon of photoelasticity is the basis of operation for the PEM.



Modulator Head Assembly The transducer-optical element assembly (called the “optical assembly”) is the heart of a PEM CSC photoelastic modulator. It consists of a rectangular or octagonal “window” of ...

Contact Us

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