100kHz Fiber Bragg Grating Demodulator

A high speed quasi-distributed demodulation method based on the microwave photonics and the chromatic dispersion effect is designed and implemented for weak fiber Bragg gratings (FBGs).

It uses a scanning narrow-band semiconductor laser as light source to perform high-resolution fiber grating demodulation in the range of 40nm. It is designed for static FBG measurement and can be ...

Simulation and experimental findings demonstrate that FMD can effectively eliminate the information of environmental noise and temperature, and greatly retain vibration information. In the ...

The proposed method expands the types of FBG sensors that can be demodulated, overcoming the limitation of the conventional AWG-based method on the demodulation range. This ...

It has high temperature measurement accuracy, short response time, anti-electromagnetic interference, electrical insulation, and intrinsic safety. It has the characteristics of explosion-proof, so it can be ...

In this article, a tracking-based high-speed demodulation method for FBG sensing systems based on the wavelength-tunable laser is proposed. The wavelength-tunable laser only ...

Fibre Bragg gratings are one of the most popular sensors with a huge number of applications. Their most important advantage is signal modulation consisting in shifting the spectrum ...

In this paper, a photoelectric conditioning circuit for fiber Bragg grating demodulation is designed. The experimental results show that this method can accurately demodulate fiber Bragg ...

Learn about the pricing, inventory, datasheet PDF, and equivalent parts for the SI155 1KHZ-100NM FIBER GRATING SENSING DEMODULATOR data collecting instrument.

A demodulation algorithm is vital for a fiber Bragg grating (FBG) sensing system. In this paper, a novel demodulation algorithm based on the variable-step-size method and cross-correlation algorithm is ...

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