TS-HS-100 High-Speed FBG Interrogator

Description

The TS-HS-100 high-speed Fiber Bragg Grating (FBG) interrogator is a multi-channel, high-speed acquisition device designed for dynamic measurement applications. Equipped with high-precision real-time demodulation algorithms, it supports synchronous high-speed acquisition across multiple channels, with a single-channel sampling rate of up to 100 Hz. It offers excellent wavelength stability and measurement accuracy, meeting the demands of high-performance engineering monitoring and experimental analysis.

The device comes with comprehensive supporting software, which can display and record the reflection spectra and wavelength data for each channel. The software supports the conversion of wavelength data into physical quantities such as strain and temperature based on calibration parameters, enabling real-time monitoring of the measured parameters.

Features

- High-speed, high-precision dynamic demodulation
- Multi-channel synchronous acquisition
- All-weather online monitoring and real-time alerting
- Professional supporting monitoring software

Applications

- Structural health monitoring of bridges, dams, tunnels, and other structures
- Structural deformation monitoring of oil and gas pipelines
- Load monitoring of wind turbine blades

Specification

Item	Unit	Specification
Optical Channels	Channels	2/4/6/8/12 (Customized)
Wavelength Range	nm	1528–1568
Wavelength Resolution	pm	1
Wavelength Accuracy	pm	< 3
Sampling Rate	Hz	100
Optical Interface	-	FC/APC (Customized)
Communication Interface	-	RS485, RJ45
Optical Power per Channel	mW	> 0.6
Supply Voltage	V	< 3
Power Consumption	W	-40 to 80
Storage Temperature	°C	1.0 or Customized
Operating Temperature	°C	-20 to 65
Dimensions	mm x mm x mm	250 × 170 × 70