

HIGH SENSITIVITY DAS SYSTEM

The Distributed Acoustic Sensing (DAS) system transforms standard fiber optic cables into continuous, real-time acoustic sensors. It operates by sending laser pulses down the fiber and analyzing the Rayleigh backscatter - tiny reflections caused by microscopic imperfections within the fiber.

When an acoustic or vibrational event interacts with the fiber, it induces minute changes in strain, altering the optical path length and, consequently, the phase of the backscattered light. The system precisely measures these phase shifts along the entire length of the fiber, enabling localization and characterization of events such as vibrations, temperature changes, and strain with high spatial resolution and sensitivity over many kilometers.



APPLICATIONS

- Structural Health Monitoring
- Subsea Cable Monitoring
- Geophysical Monitoring
- Pipeline Monitoring
- Perimeter Security
- Smart Cities

SPECIFICATIONS

Wavelength	C-band
Optical Power Output	Average 1 mW to 10 mW (high power version up to 1 W available)
Laser Linewidth	1 kHz to 15 Hz
Sensing Range	25 km
Spatial Resolution	Minimum 10 m
Sampling Frequency	5 kHz
Averaging Rate	10 Hz to 3 kHz
Dynamic Range	> 80 dB at 10 Hz
Optical Channel	1 CH or 2 CH
Optical Fiber	SMF 1550
Optical Connector	SC/APC or FC/APC
Output Data Type	Backscattering Relative Intensity and Phase Information
PC Interface	Ethernet
Operating Temperature	0 to 45 °C
Dimension	4U × 280 mm × 320 mm

CONTACT



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