

AcoustiSens® MT-130 Vibration Sensor Fiber for Mid-Temp Applications

P/N: GS88145: Improved OSNR for Great ASNR™



AcoustiSens Wideband Vibration Sensor Fiber	
Specifications	
Enhancement (over naturally occurring Rayleigh backscatter in G.657.A1 fiber)	>10 dB
Base Waveguide	G.657.A1-like
Operating Range	1536-1556 nm
Fiber Attenuation @ 1550 nm	<0.7 dB/km
MFD @ 1550 nm	10.0 μ m
Glass Outer Diameter	125 μ m
Coating Outer Diameter	200 μ m
Operating Temperature	-40 to +130 °C
Min. Bend Radius Long Term Short Term	17 mm 10 mm
Proof Test	\geq 100 kpsi

Product Description

AcoustiSens MT-130 Wideband Single-Mode Optical Fiber (P/N: GS88145) is a vibration sensing fiber with optimal performance for Distributed Acoustic Sensing (DAS) systems in applications where elevated temperatures may be encountered. Using a waveguide design based on the ITU-T G.657.A1 telecom-grade singlemode standard, AcoustiSens MT-130 Wideband fibers significantly increase Rayleigh backscatter while maintaining low attenuation to improve Optical Signal to Noise Ratio (OSNR). Furthermore, the AcoustiSens MT-130 Wideband fibers provide bend-insensitivity and expand the operating wavelength band (1536 - 1556 nm) ensuring interoperability with all known DAS interrogators. Without the need for changes in interrogation equipment or complex optical amplification schemes AcoustiSens MT-130 Wideband is a drop-in fiber replacement that provides greatly improved sensing performance with OSNR orders of magnitude better than telecom-standard fibers. This translates into significantly improved Acoustic Signal-to-Noise Ratio (ASNR) in DAS systems. Due to its waveguide design and thermally stable coating, AcoustiSens fibers are suitable for continuous use up to 130 °C and splice compatible with G.657.A1 and G.652.D optical fibers. This ensures smooth integration with commonly deployed DAS sensing solutions and improved reliability with up to 10 years continuous use.*

Typical Applications

OFS AcoustiSens optical fibers are intended for use as components in optical and hybrid cables and sensing devices designed for vibration or acoustic sensing applications such as:

- Borehole monitoring
- Industrial Process Control
- Pipeline Monitoring

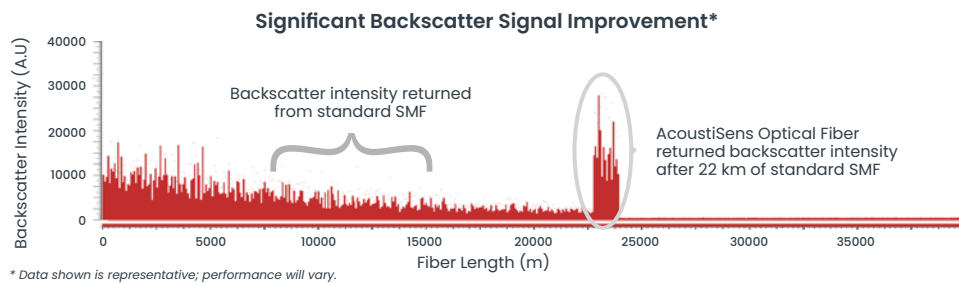


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As critical components within acoustic and vibration sensing devices for DAS, AcoustiSens MT-130 Wideband fibers improve sensitivity by increasing Rayleigh backscatter while adding little attenuation thereby lowering the noise floor of the sensor to improve the performance of the sensing system.

Features	Benefits
Greater than 10 dB increase in Rayleigh backscatter	Fiber has greater sensitivity to environmental vibration (acoustics)
1536 to 1556 nm window	Compatible with all known, commercial interrogator operating wavelengths
Thermally stable coating	Enable continuous operation up to 130 °C for up to ten years
Little added attenuation over commercially available G.657.A1 and G.652.D optical fibers	Increased sensitivity with little added noise dramatically improves Signal to Noise Ratio (SNR) enabling improvements Distributed Acoustic Sensing (DAS) Systems
Simplified coupling: Splice-compatible with telecom grade G.657.A1 and G.652.D optical fibers	Dramatically improved OSNR for detection of vibration/acoustics and due to its splice compatibility with common telecom fibers, AcoustiSens can be integrated to target sections of installations where harsh conditions occur
Enables design of sensing cables and devices for increased offset from assets being monitored	Detection of weaker acoustic/vibration events as compared to standard G.657.A1 and G.652.D fibers improves effectiveness of DAS systems allowing extension of traditional sensing range

* **NOTE:** See A. A. Stolov, D. A Simoff, J. Li, *Thermal Stability of Specialty Optical Fibers*. J. Lightwave Technol., 2008, V 26, N 20, P. 3443-3451.



AcoustiSens Ordering Information

Part Number	Nominal Interrogator Wavelength Band	Optically Compatible with
GS88145	1536 - 1556 nm	G.657.A1 and G.652.D

NOTE: Custom AcoustiSens designs are also possible. Please consult OFS with inquiries and for design guidance. Contact information shown below.

*This is a preliminary data sheet showing a pre-production prototype device.
Specifications are subject to change without notice.*

You can also visit our website at www.ofsoptics.com or call 1-888-fiberhelp (1-888-342-3743) USA or 1-770-798-5555 outside the USA.

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