



OPTIMIC™ 1190

Fiber Optic Microphone for High SNR, Long Range Applications

Miniature optical microphone for acoustic monitoring that requires high signal-to-noise ratios (SNR) over extended distances. Ideal where the footprint for microphone placement is severely limited or where the microphone is a sub-component in another device or system.

FEATURES

- ▶ Small, lightweight MEMS design
- ▶ Absolute EMI/RFI immunity
- ▶ Completely passive sensor with no metal or electrical parts
- ▶ High SNR over long distances
- ▶ Noise levels lower than ECM electret microphones
- ▶ High reliability and environmental stability
- ▶ Optical fiber connection over extended lengths without signal loss
- ▶ Exceptionally low sensitivity to vibration
- ▶ Headphone output and volume control
- ▶ Plug-and-play system
- ▶ Cost-effective, long-term solution

TECHNICAL SPECIFICATIONS

Polar Pattern	Omnidirectional		
Frequency Response	10-10,000 Hz		
Conformity 10 - 1,000 Hz	±0.5 dB		
Conformity 1,000 - 10,000 Hz	±3.0 dB		
Sensitivity	100 mV/Pa ±10% at 1 kHz		
Equivalent Self-Noise Levels	≤19 dBA	≤21 dBA	≤34 dBA
	At Distances	10 m	100 m
Maximum Acoustic Pressure	114 dB SPL		
Total Harmonic Distortion	<1% at 84 dB SPL		
Equivalent Vibration Sensitivity	Max. 45 dB SPL/g at 1 kHz		
Supply Voltage	8-15 V DC		
Current Drain (max.)	110 mA		
Operating Temperature	-20 to +60 °C (-4 to +140 °F)		
Storage Temperature	-20 to +60 °C (-4 to +140 °F)		
Humidity - 1000 hours	Up to 95% RH at 40 °C		
MTBF	>100,000 hours		
Microphone Head Material	Polycarbonate		
Dimensions D/L	6/16 mm		
Weight	0.5 g		
Optical Cable Length	10 m		

APPLICATIONS

- ▶ Extremely low level noise monitoring
- ▶ Long range peer-to-peer monitoring
- ▶ 'No interference' signal monitoring
- ▶ Oil and gas detection sites
- ▶ High voltage electrical utilities
- ▶ Highly explosive areas
- ▶ High RFI and EMI areas
- ▶ Aerospace measurements
- ▶ Petrochemical facilities



OPTIMIC™ 1190 System Kit

Complete, versatile, cost-effective solution

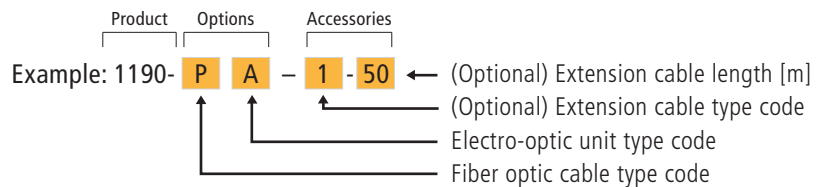
Optoacoustics' OPTIMIC 1190 system is comprised of our advanced OPTIMIC fiber optic microphone, electro-optic unit, audio cable with BNC connector, DC power supply and a ruggedized carrying case.









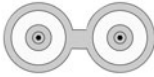
Optoacoustics EOU 100 electro-optic unit showing fiber optic, audio, and power supply connections

PRODUCT ORDERING GUIDE

Use the matrix below to select options and accessories for your order.



Options	Fiber Optic Cable Type		Electro-Optic Unit Type	
Item	Clear PVC Ø 1 mm	Kevlar reinforced black PVC Ø 3 mm	EOU 100 Single Channel	EOU 200 Single Channel
Code	P	F	A	B
				

Accessories	Extension Cable Type (Specify length from 10-1000 m)		
Item	Outdoor, Milspec Ø 5 mm	Indoor, Rugged Ø 3.0 mm	Indoor, Zip Cord Ø 3.0 x 2 mm
Code	1	3	4
			



SOUND SOLUTIONS FROM LIGHT TECHNOLOGY

Optoacoustics is a leading manufacturer of high performance, optical fiber-based sound and vibration sensors. Each of our products combines the natural intelligence of optics and acoustics to meet technical performance demands which cannot be addressed by conventional sensing solutions. Optoacoustics' pioneering technology is protected by over 20 international patents.

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