



SOUND SOLUTIONS FROM LIGHT TECHNOLOGY



OPTIMIC™ 1170

Fiber Optic Microphone for Extreme Temperature Applications

Miniature fiber optic microphone for acoustic monitoring at extreme temperatures. 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
- ▶ Suitable for use at extreme temperatures
- ▶ Standard analog output
- ▶ High reliability and environmental stability
- ▶ Optical fiber connection over extended lengths without signal loss
- ▶ Exceptionally low sensitivity to vibration
- ▶ Plug-and-play system
- ▶ Cost-effective, long-term solution

TECHNICAL SPECIFICATIONS

Polar Pattern	Omnidirectional
Frequency Response	30-8,000 Hz
Conformity 30 - 1,000 Hz	±0.5 dB
Conformity 1,000 - 8,000 Hz	±4.0 dB
Sensitivity	100 mV/Pa ±10% at 1 kHz
Equivalent Self-Noise	≤31 dBA
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	80 mA ±10%
Operating Temperature	-50 to +120 °C (-58 to +128°F)
Storage Temperature	-50 to +120 °C (-58 to +128 °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

- ▶ Extreme cold or hot environments
- ▶ Close-proximity machine monitoring
- ▶ Standard outdoor operations
- ▶ High voltage electrical utilities
- ▶ Oil and gas detection sites
- ▶ Highly explosive areas
- ▶ High RFI and EMI areas
- ▶ Aerospace measurements
- ▶ Petrochemical facilities



OPTIMIC™ 1170 System Kit

Complete, versatile, cost-effective solution

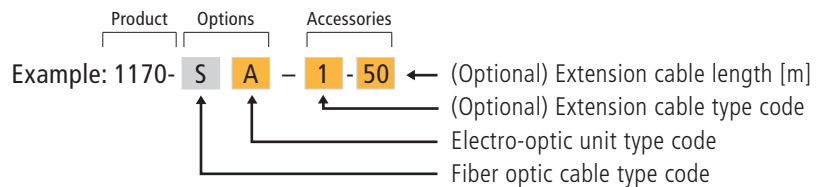
Optoacoustics' OPTIMIC 1170 system is comprised of our advanced OPTIMIC fiber optic microphone, electro-optic unit, audio cable with BNC connector, DC power supply and a ruggedized carrying case.









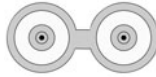
Optoacoustics EOU 100 electro-optic unit showing fiber optic, audio, and power supply connections

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 Teflon Ø 1 mm	EOU 100 Single Channel	EOU 200 Single Channel
Code	S	A	B
			

Accessories	Extension Cable Type* (Specify length from 10-100 m)			
Item	Outdoor, Milspec Ø 5 mm	Outdoor, Polyamide Ø 5.1 mm	Indoor, Rugged Ø 3.0 mm	Indoor, Zip Cord Ø 3.0 x 2 mm
Code	1	2	3	4
				

* Extension cables listed here are not suitable for operation at extreme temperatures.



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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.

HEADQUARTERS
17 Hata'asia Street
60212 Or-Yehuda
Israel

TOLL-FREE +1 866-867-5029
PHONE +972 3-634-4488
FAX +972 3-634-9292
EMAIL info@optoacoustics.com

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