



## OPTIMIC™ 1150

### Fiber Optic Microphone for High SPL Applications

Miniature fiber optic microphone for indoor acoustic monitoring of signals with sound pressure levels (SPL) as high as 140 dB. Ideal where the microphone placement footprint 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
- ▶ Linear response of up to 140 dB SPL
- ▶ Extended frequency response
- ▶ 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	10-15,000 Hz
Conformity 10 - 10,000 Hz	±1 dB
Conformity 10,000 - 15,000 Hz	±3 dB
Sensitivity	7.5 mV/Pa ±10% at 1 kHz
Equivalent Self-Noise	≤55 dBA SPL
Maximum Acoustic Pressure	140 dB SPL
Total Harmonic Distortion	<1% at 110 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

- ▶ MRI scanner room SPL measurement
- ▶ MRI earmuff noise measurement
- ▶ fMRI headphone calibration
- ▶ Industrial and noisy environments
- ▶ Oil and gas detection sites
- ▶ Highly explosive areas
- ▶ High RF areas
- ▶ Severe electromagnetic fields
- ▶ Aerospace measurements



# OPTIMIC™ 1150 System Kit

Complete, versatile, cost-effective solution

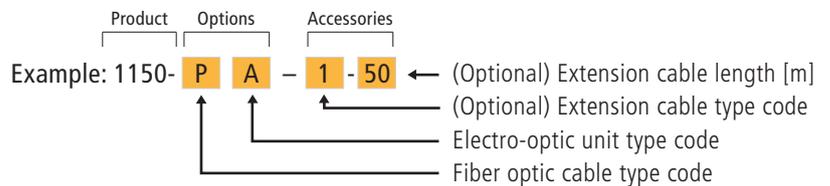
Optoacoustics' OPTIMIC 1150 system is comprised of our advanced OPTIMIC fiber optic microphone, electro-optic unit, audio cable with BNC connector, DC power supply and a ruggedized carrying case.



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	<b>P</b>	<b>F</b>	<b>A</b>	<b>B</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	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>



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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