



SOUND SOLUTIONS FROM LIGHT TECHNOLOGY



## OptiRhythm™

### Fiber Optic Heartbeat Monitor

Contact fiber optic sensor designed for cardiac monitoring during an MR scan. Provides accurate gated cardiac and respiration data, regardless of the high noise and sound pressure levels that are present.

#### FEATURES

- ▶ Cardiac EKG and respiration gating during highest SPL phases of a scan
- ▶ Easily strapped to a patient, effective on top of clothing
- ▶ Provides clear separation of both low (<100 Hz) and high (>100 dB) frequencies
- ▶ Real-time analog output supports post-scan analysis using standard software
- ▶ Certified absolute EMI/RFI immunity
- ▶ Optical fiber connection over extended lengths without signal loss
- ▶ Plug-and-play system
- ▶ Robust, cost-effective solution

#### TECHNICAL SPECIFICATIONS

Device Type	Contact microphone
Frequency Response	10-200 Hz
Conformity	±3.0 dB
Sensitivity at 1 mg (RMS)	10 mV
Equivalent Self-Noise	≤2 µg
Maximum acceleration	0.3 g
Supply Voltage	8-15 V DC
Current Drain (max.)	80 mA
Operating Temperature	-20 to +60 °C (-4 to +140 °F)
Storage Temperature	-20 to +60 °C (-4 to +140 °F)
Water Resistant	Up to 10 m
MTBF	>100,000 hours
Microphone Head	
Material	Polycarbonate
Diameter	36 mm
Weight	18 g
Optical Cable Length	10 m

#### APPLICATIONS

- ▶ Gated heart monitoring in MRI
- ▶ Gated respiration monitoring in MRI
- ▶ Severe electromagnetic fields
- ▶ High voltage electrical utilities
- ▶ Oil and gas detection sites
- ▶ Highly explosive areas
- ▶ High RFI or EMI areas
- ▶ Aerospace measurements
- ▶ Petrochemical facilities



Separating and filtering structural and heart sounds (20-40 Hz) from scanner acoustic noise (>100 dB) enables OptiRhythm to produce very accurate gating.

# OptiRhythm™ System Kit

Complete, versatile, cost-effective solution

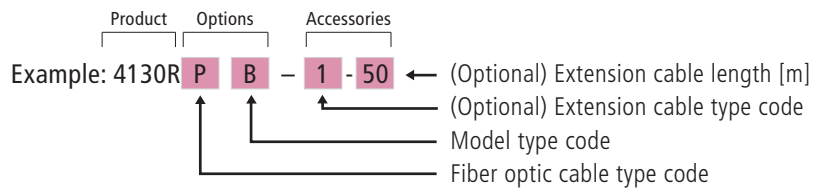
Optoacoustics' OptiRhythm system is comprised of our advanced fiber optic microphone, electro-optic unit, audio cable with BNC connector, DC power supply, velcro adhesive chest strap and carrying case.










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 200 Single Channel
Code	<b>P</b>	<b>F</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>
				



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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.

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DS-4130R-1 0811