



## OPTIMIC™ 1180

### Fiber Optic Stereo Microphone for Extended Frequency Applications

Miniature fiber optic stereo microphone system for indoor acoustic monitoring with extended frequency range response. 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
- ▶ Extended frequency response
- ▶ Matched stereo microphones
- ▶ 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               |
| Twin Microphone Amplitude Match  | ±0.5 dB                       |
| Frequency Response               | 10-15,000 Hz                  |
| Conformity 10 - 1,000 Hz         | ±0.5 dB                       |
| Conformity 1,000 - 15,000 Hz     | ±3.0 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 (max.)             | 130 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                   | 6/23 mm                       |
| Weight                           | 0.6 g                         |
| Optical Cable Length             | 10 m                          |

#### APPLICATIONS

- ▶ Monitoring two separate locations
- ▶ Sound energy density measurement
- ▶ Stereo fidelity binaural recording
- ▶ High voltage electrical utilities
- ▶ Oil and gas detection sites
- ▶ Highly explosive areas
- ▶ High RFI or EMI areas
- ▶ Aerospace measurements
- ▶ Petrochemical facilities



# OPTIMIC™ 1180 System Kit

Complete, versatile, cost-effective solution

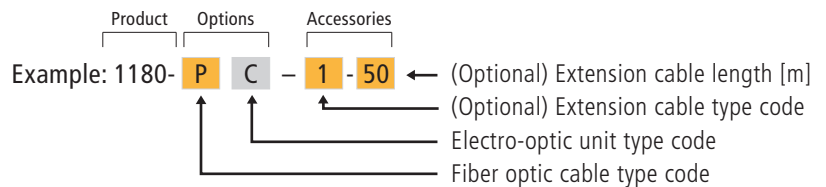
Optoacoustics' OPTIMIC 1180 system is comprised of our advanced OPTIMIC fiber optic microphone, electro-optic unit, audio cable with BNC connector, DC power supply and a ruggedized carrying case.



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<br>Ø 1 mm    | Kevlar reinforced black<br>PVC Ø 3 mm | EOU 300<br>Stereo       |
| Code    | <b>P</b>               | <b>F</b>                              | <b>C</b>                |
|         |                        |                                       |                         |

| Accessories | Extension Cable Type (Specify length from 10-100 m) |                                |                            |                                  |
|-------------|---|--------------------------------|----------------------------|----------------------------------|
| Item        | Outdoor, Milspec<br>Ø 5 mm                          | Outdoor, Polyamide<br>Ø 5.1 mm | Indoor, Rugged<br>Ø 3.0 mm | Indoor, Zip Cord<br>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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