

# KINGFISHER

## Fiber Optic Microphone SOM(5) Waterproof



### Features

- Robust design suited to industrial applications
- Absolute EMI/RFI immunity
- Completely passive sensor
- Waterproof and submersible to depths of 15 meters
- High reliability and environmental stability
- Optical fiber connection over extended lengths without signal loss
- Exceptionally low sensitivity to vibration
- Cost-effective, long-term solution

### Applications

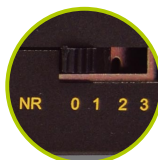
- Water area or portside monitoring
- Extremely humid environments
- Oil and gas detection sites
- Highly explosive areas
- High voltage electrical utilities
- High RF areas
- Petrochemical facilities



Optional  
internal  
recorder



Optional  
noise  
reduction



Fully sealed fiber optic microphone for remote monitoring applications. Designed specifically for use in seawater, wet or extremely humid environments.

The SOM(5) Waterproof comprises of an advanced waterproof fiber optic microphone & single-channel electro-optic unit (EOU200), for digital-to-analog conversion of optical microphone output signals. The Single Channel EOU200 with enhanced electronics box. It features two analog outputs (one with volume control for headphones, another with fixed gain for monitoring equipment); one pair of ST-style fiber optic connectors; two 3.5mm sockets (one for analog output, another for headphones); green/red LED voltage indicator.

DSP model (EOU250) provides up to 22dB of real-time ambient noise removal (three levels: low, mid, high). Unit is powered either by internal battery or external DC power supply.

## Technology

It's built around a tiny MEMS membrane and two optical fibers. When acoustic waves impinge on the membrane they cause it to vibrate, changing the intensity of light that is reflected from incoming to outgoing fibers. This patented mechanism detects even the slightest changes in membrane displacement, with resolutions at a fraction of an Angstrom. Such precision translates to clear sound and low self-noise, and produces exceptional microphone performance. ■

## Technical Specifications

<b>Polar pattern</b>	Omnidirectional
<b>Frequency response</b>	30 - 7,000Hz
Conformity 30 - 1,000Hz	±3.0dB
Conformity 1,000 - 7,000Hz	±10.0dB
<b>Sensitivity</b>	100mV/Pa ±10% at 1kHz
<b>Equivalent self-noise</b>	≤31dBA
<b>Maximum acoustic pressure</b>	114dB SPL
<b>Total harmonic distortion</b>	<1% at 84dB SPL
<b>Supply voltage</b>	8 - 15V DC
<b>Current drain (max.)</b>	90mA
<b>Operating temperature</b>	-20° to +60° C (-4° to +140° F)
<b>Storage temperature</b>	-20° to +60° C (-4° to +140° F)
<b>Water resistant</b>	Up to 15m
<b>MTBF</b>	>100,000 hours
<b>Microphone head</b>	
Material	Polycarbonate
Maximum diameter	27mm
Maximum length	12mm
Weight	6g
<b>Type of fiber optic cable</b>	Multimode 100µm
<b>Optical cable length</b>	10m standard (lengths available up to 100m)

## Product Codes

### KINGFISHER Fiber Optic Microphone SOM(5)Waterproof – Full Systems

- 3-299-664** SOM(5)WP010XT - Security Optical Microphone with 10m of 5.1mm black polyamide optic cable no extension tube, Electro Optical Unit (EOU200), audio cable with 3.5mm jack, 8-12V DC power adapter and guidance manual
- 3-299-665** SOM(5)WP020XT - Security Optical Microphone with 20m of 5.1mm black polyamide optic cable no extension tube, Electro Optical Unit (EOU200), audio cable with 3.5mm jack, 8-12V DC power adapter and guidance manual

### KINGFISHER Fiber Optic Microphone SOM(5)Waterproof – Accessories & Upgrades

- 3-229-646** Extension cable type outdoor, 5mm milspec (military standard) (specify length from 10-100m)
- 3-299-647** Extension cable type outdoor, 5.1mm polyamide, lightweight, rigid (specify length from 10-100m)
- 3-299-690** OPTIClear software - PC based speech enhancement utilizing a single channel noise reduction algorithm. OPTIClear works in both real-time and post-processing modes. Price for 1 license includes USB dongle
- 3-299-667** Internal digital recorder (Micro-SD format) 2-16GB, 44.1kHz, 16bit, no compression > 10 hours / 4 days
- 3-299-654** EOU250 (instead of EOU200) - built-in noise canceling via DSP



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