

EMM8 Electret Measurement Microphone

iSEMcon EMM8
omnidirectional measurement microphone



User Guide

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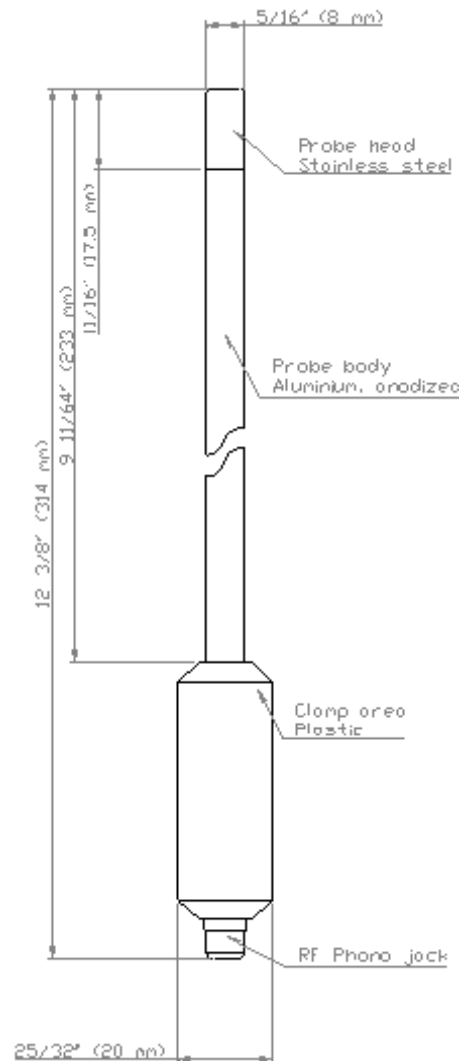
Introduction

General Description

The iSEMcon EMM8 is an accurate microphone. It utilizes a small, accurate omni directional capsule, in a carefully crafted, rugged aluminium/steel body. Due to its small diameter (approx. 5/16") and long size (12.4") it has less influence on the sound field. Operating the mic is very simple. Use a good quality, shielded RF phono cable with plugs on both sides and connect the IBFEMM8 to a microphone preamp such as the IBFMP21 which provides bias power with at least 0.5 mA of current available. Adjust the preamp gain to the level required for testing.

Features

- audio frequency range
- low noise
- low power consumption
- less influence on the soundfield for accurate measurements
- rugged anodized aluminium housing with stainless steel front end
- no shock mount needed
- calibration data on disc
- fits to standard mic clamps
- accessories: mic clamp included



Operational Notes

Why omni

Our goal was to develop an accurate mic at low cost applicable for room acoustic and speaker measurements. It should be as precise as necessary with less coloration on acoustic signals. Therefore we have designed what you see or rather hold in your hands.

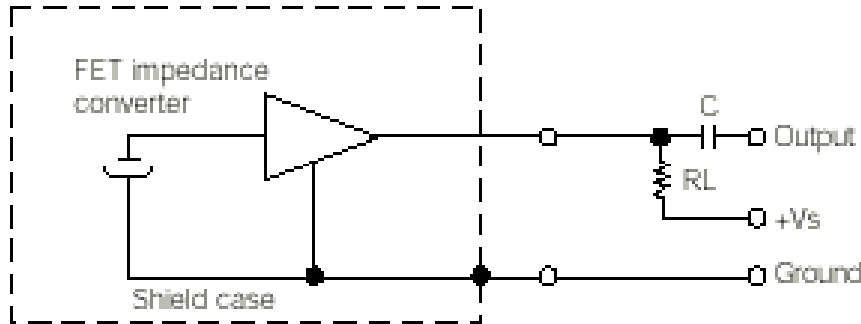
A microphone for medium SPL with no cage but a grill in front of the diaphragm. This avoids heavily sound colorations contributed by resonances and reflections in such cages.

The electret microphone

An electret MIC is the best value for money omnidirectional microphone you can buy. Those microphones are used in many applications where small and inexpensive

microphones with good performance characteristics are used.

It is a modification of the classic condensor microphone. Whereas a condensor mic needs an applied phantom power, the electret condenser has a build in charge. The bias voltage of around 110V is needed to supply the buildin FET buffer and should be applied using a 110kOhm resistor. Normally an electret capsule is a 2 terminal device

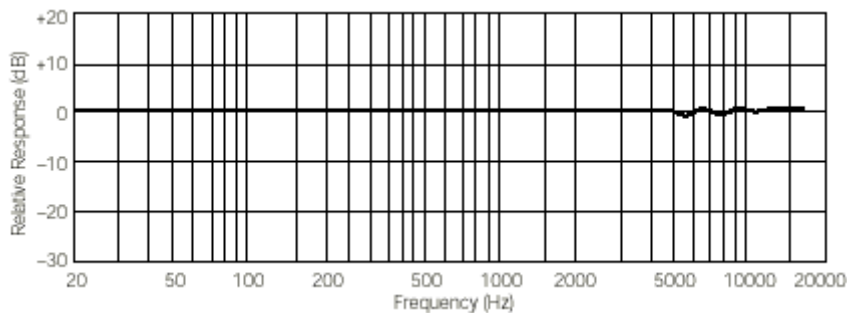


that works like a current source when biased. The bias voltage should be kept clean, because the noise in this will get to the microphone output.

Appendices

Specifications

on axis frequency response 20 20.000 Hz + 2dB



polar pattern (directivity) omnidirectional

Sensitivity 6mV / Pa / 1kHz + 4dB @bias 2.5V , 2.2 kOhm

Power requirements 1.5 10V / approx. 0.5 mA

peak acoustic input > 120 dB SPL

output connector RF phono jack

Noise S/N ratio >58 dB

dimensions probe dia : approx. 5/16", 8 mm
length : 12 3/8" , 315 mm
max dia : 25/32" , 20 mm

weight	1 1/2 oz, 42 grams (without clamp)
calibration	individually calibrated. The calibration microphone and preamp for this is the Bruel & Kjaer condensor B&K 4133 (1/2" freefield) and B&K 2639 preamp.

Accessories

microphone clamp – please order separately