



OM242 / OM262 Permanent Outdoor Microphone

Features:

- Optimized for 0° and 90° incidence to meet IEC 61672-1
- Delivered with individual calibration data
- IP55 enclosure to against rain, dust and perching birds
- The protection kit can be quickly remove for calibration
- Built-in electrostatic actuator for remote system check (external excitation signal source is required)
- ICCP power supply, low self-generated noise, typical noise level is ~17 dBA
- It can be installed on the tripod by 1/4-inch thread on the bottom

Applications:

- Aircraft and airport noise measurement
- Urban, traffic and industrial noise measurement
- Acoustic measurement in severe weathers



Introduction

OM242/OM262 permanent outdoor microphone is developed by BSWA Tech for outdoor noise monitor. Compared with semi-permanent outdoor microphone, the main improvement of permanent outdoor microphone is the built-in electrostatic actuator which can be used for remote system check of the microphone. The external excitation signal source that can generate sine wave signal with frequency of 500 Hz and amplitude of 210 V_{peak} ~ 280 V_{peak} (about 150 VRMs ~ 200 VRMs) can excite the microphone generate 90 dB@1 KHz output signal. Electrostatic actuator can be used for whole system check including microphone, cable and measuring instrument, but it cannot completely replace the sound calibration. Therefore, it is still necessary to use sound calibrator for calibration regularly.

The frequency response of **OM242** is optimized for 0° incidence, primarily for aircraft and airport noise measurement. The **OM262** is optimized for 90° incidence, primarily for urban, traffic and industrial noise measurement. Both of two types of microphones have been specially designed to achieve the free-field frequency response in specified direction of incidence within the limits of IEC 61672-1. Each microphone is supplied with an individual calibration certificate that contains the actual sensitivity and free-field frequency response data for the complete set of outdoor microphones. Users can use the calibration data to correct the measurement data for more accurate results.

OM242/OM262 meets the IP55 ingress protection rating. The 90mm windscreen, internal rain hood and dust mesh can fully protect microphone to against wind, rain, snow, dust and other severe weathers. The bird spike prevents impact of perching birds to the measurement.

Specifications

Type	OM242	OM262
Application	Aircraft and airport noise	Urban, traffic and industrial noise
Incidence	0°	90°
Standard	GB/T 3785.1-2010 Class 1, IEC 61672-1:2013 Class 1, ANSI S1.4-1983 Type 1	
Built-in Microphone	1/2" Prepolarized Microphone	



Sound Field	Free-field
Sensitivity @250 Hz (mV/Pa) (± 3 dB)	50 (-26 dB re 1V/Pa)
Polarization Voltage	0 V (Prepolarized)
Frequency Response (Hz)	10 ~ 20 k (According to IEC 61672-1)
Dynamic Range (dBA ~ dB)	17 ~ 134
Self-generated Noise (dBA)	17
Maximum SPL (dB)	≥ 134 (3 % distortion)
Peak SPL (dBA)	137
Output Impedance	$< 30 \Omega$
Maximum Output Voltage (V _{peak})	± 7.1
Power Supply	ICCP (2 mA ~ 20 mA, 4 mA Typ.)
Output Connector	BNC (Microphone), 10-32 UNF (Actuator)
TEDS	Optional, IEEE 1451.4 compliant (default v0.9, optional v1.0)
Mounting Thread for Tripod	1/4" thread
Enclosure	IP55 (Microphone vertical placement only)
Operating Temperature Range (°C)	-30 ~ 80
Operating Humidity Range (%RH)	0 ~ 95
Dimensions (mm)	Ø90 x 222 (without extension rod), Ø90 x 376 (with extension rod)
Weight (g)	94 (without extension rod), 214 (with extension rod)