

AWA14423-S04E 1/2" Free-field Measurement Microphone set



Features

Key Parameters

Sensitivity: 50 mV/Pa

Frequency Range: 3.15 Hz~20 kHz

Dynamic Range: 17 dBA~135 dB

Typical Applications

Free field testing

Electroacoustic testing

Noise testing

Standards

IEC 61094-4:1995 Measurement microphones – Part 4: Specifications for working standard microphones

SJ/T 10724-2013 Electroacoustics – General specifications for measurement condenser microphones

Main Components

AWA14423 Measurement Microphone

AWA14604E Preamplifier

Brief Introduction

The AWA14423-S04E is a unit comprising a free-field, prepolarized measurement microphone and a preamplifier. Designed specifically for acoustic measurement applications, it comes with an individual calibration certificate and is suitable for acoustic environments characterized by free-field conditions or sound waves incident from specific directions (such as anechoic or semi-anechoic chambers). Featuring a high-precision capacitive sensor, the unit offers a wide frequency range (typically 3.15 Hz to 20 kHz), high sensitivity, and excellent stability. It is compatible with mainstream acoustic analysis instruments and is widely used in applications such as noise source localization, acoustic performance testing of equipment, and architectural acoustics assessment.

Product Highlights

Applications of Free-Field Microphone sets

Free-field microphone sets feature a wide frequency response range, making them suitable for various measurement scenarios. Designed specifically for environments free of reflections or echoes, they are widely used in fields such as acoustic research, noise monitoring, and sound system testing.

Compatibility

The AWA14423-S04E measurement microphone set requires an external constant-current power supply module capable of delivering 2 mA to 20 mA of current and an open-circuit voltage of 24 V. Different manufacturers may use various terms for such power modules and their supply modes, such as IEPE (Integrated Electronics Piezo-Electric), ICP (Integrated Circuit Piezoelectric), CCP (Constant Current Power), or CCLD (Constant Current Line Drive).

TEDS-Enabled Measurement Microphone set

This set supports TEDS (Transducer Electronic Data Sheet) and is programmed according to the IEEE 1451.4 standard, complying with V1.0 format requirements. It is compatible with smart microphone technology, facilitating the integration and automated management of microphone information.

Calibration

Each measurement microphone set is calibrated at the factory using traceable calibration equipment and is supplied with a calibration certificate. Annual recalibration is recommended.

Quality and Warranty

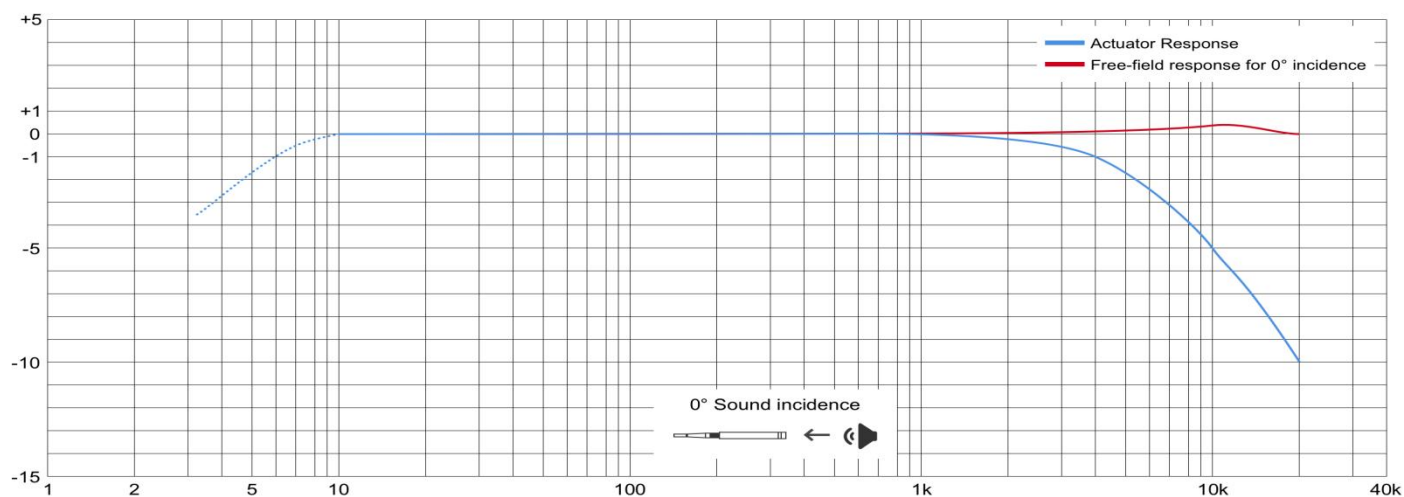
All Aihua microphones feature second-generation alloy diaphragms, high-strength protective grids, and synthetic corundum insulators, making them highly stable and reliable measurement microphones. Compared to traditional nickel or stainless steel, these alloy diaphragms offer superior corrosion resistance, high-temperature stability, impact resistance, and specific strength. All microphones are assembled and tested in Class 1000 cleanrooms to ensure the highest quality. The measurement microphone set comes with a one-year warranty, and we provide comprehensive after-sales support services.

Technical Specifications

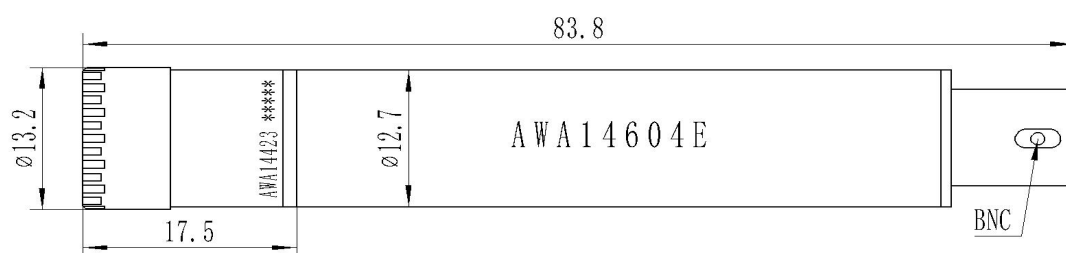
AWA14423-S04E 1/2" Free-field Measurement Microphone set			
Sound Field Type	Free field	Pressure Equalization	Lateral pressure equalization
Diameter	1/2 inch	Operating Temperature (°C)	-30 to +80
Dimensions Standard (IEC 61094)	WS2F	Temperature Coefficient (dB/°C) (@250 Hz)	-0.01 (-10°C to 50°C)
Power Supply	IEPE (2 mA~20 mA)	TEDS	Standard
Sensitivity (mV/Pa) (@250 Hz ±2.0 dB)	50	Static pressure coefficient (dB/kPa)	-0.01
Frequency Range (Hz)	3.15~20k	Output Voltage	≥5 Vrms@24V Supply
Polarization Voltage (V)	0	Output Impedance	≤50 Ω
Dynamic Range	17 dBA~135 dB	Input Impedance/Capacitance	≥10 GΩ/≤0.5 pF
Noise Floor (dBA)	≤17	Output Connector	BNC

Frequency response

Test conditions: Temperature 23 °C, Relative humidity 50 %RH



Specifications and Dimensions



Ordering Information

Optional Accessories

Microphone test clip	1/2" microphone test clip
Preamplifier power supply	AWA1710
Cable	AWA8740

Related Products:

AWA14404-S00E 1/2" Pressure-field working standard microphone set
12.6 mV/Pa, 3.15 Hz–20 kHz, 24 dBA–160 dB

AWA14403-S00E 1/2" Free-field working standard microphone set
14.1 mV/Pa, 3.15 Hz–40 kHz, 23 dBA–159 dB

AWA14423-S04E 1/2" Free-field measurement microphone set
50.0 mV/Pa, 3.15 Hz–20 kHz, 17 dBA–135 dB

AWA14423C-S01C 1/2" Free-field Infrasonic microphone set
39.8 mV/Pa, 0.1 Hz–20 kHz, 21 dBA–137 dB

AWA14523-S04E 1/2" Free-field Infrasonic/Broadband microphone set
31.6 mV/Pa, 0.5 Hz–40 kHz, 21 dBA–139 dB

AWA14424C-S01C 1/2" Pressure-Field infrasonic microphone set
21.1 mV/Pa, 0.2 Hz–16 kHz, 28 dBA–143 dB

AWA14434-S14E 1/4" Pressure-field high-SPL measurement microphone set
0.63 mV/Pa, 3.15 Hz–40 kHz, 61 dBA–173 dB

AWA14435-S14E 1/4" Free-field High-SPL Measurement microphone set
4.0 mV/Pa, 5 Hz – 20 kHz, 43 dBA – 160 dB

AWA14436-S14E 1/4" Pressure-Field Wideband High-SPL measurement microphone set
1.0 mV/Pa, 3.15 Hz~70 kHz, 57 dBA~171 dB

AWA14431-S14E 1/4" Free-field Wideband measurement microphone set
4.0 mV/Pa, 3.15 Hz – 80 kHz, 43 dBA – 160 dB

AWA14411-S04E 1-inch free-field low-noise measurement microphone set
100.0 mV/Pa, 10 Hz–16 kHz, 11.5 dBA–129 dB
