

Sound Intensity Probe

SI512

SI512 Sound Intensity Probe is built using ICCP type preamplifiers. SI512 is fitted with remote-control functions. It complies with IEC 1043 Class 2 Standard. Based on the technique of simultaneous determination of sound pressure and particle velocity by two closely spaced microphones, SI512 can be directly connected to ICCP inputs. With an USB end connected to the PC, SI512 can be remotely controlled to perform sound intensity measurements.

FEATURES

- ICCP® powered
- Remote-control functions
- Two BNC connectors for easy connection
- Accurate phase matched microphones
- Face to face configuration
- 1/3-octave centre frequency ranges: 63 Hz to 5 kHz
- Well-defined acoustical microphone separation.

SI512 comprises a robust frame which holds two ICCP preamplifiers and matched microphones in a face-to-face configuration. The distance between microphones is defined by solid, plastic spacers. Sound is constrained to act on each microphone through a narrow slit between the spacer and the microphone grid. This gives well-defined acoustic separation of the microphones and minimizes shadow and reflection effects.

Phase matching of 1/2" Microphone Pair selected from Type MP231 is better than 2 degrees in full test frequency range from 45 Hz to 6000 Hz. The normalized microphone frequency responses differ by less than 0.5 dB. SI512 is supplied with 8.5 mm, 12 mm and 50 mm spacers.

Each probe is individually calibrated in the anechoic chamber; the calibration data include phase matching, microphone sensitivities and actuator responses.



SPECIFICATIONS

Sound Intensity Probe SI512	
Standard	IEC 1043 Class 2
Frequency Range (1/3 Octave)	8.5 mm Spacer: 250 Hz ~ 5000 Hz 12 mm Spacer: 160 Hz ~ 5000 Hz 50 mm Spacer: 63 Hz ~ 1250 Hz
Weight	0.4 kg
Output Connectors	7-pin Lemo in the Probe
Cable to ICCP inputs	5 m cable with Lemo to 2 BNC connectors
Case Dimensions	400 x 200 x 70 mm
Microphone Pairs	
Microphones	Selected Type 1 MP231 for intensity microphone pair
Preamplifier	BSWA Type MA221 preamplifier
Diameter	1/2 inch
Response	Free Field
Combined Sensitivity	40 mV/Pa
Microphone Phase Response Difference	<0.3°, 45 Hz ~ 500 Hz <1°, 500 Hz ~ 2500 Hz <2°, 2500 Hz ~ 6000 Hz
Amplitude Response Difference (Ref 250 Hz)	< 0.5 dB ; 45 Hz ~ 6000 Hz
Equivalent Air Volume(250 Hz)	46 mm ³
Temperature Coefficient (-10 ~ 50°C)	-0.005 dB/°C
Humidity Coefficient	-0.003 dB/%RH
Pressure Coefficient (250 Hz)	-0.004 dB/kPa
Dimensions	IEC61094-4 Type WS 2

The remote-control function of SI512 can comply directly with such intensity system as BSWA, Müller-BBM, and etc.