

The SI502 Sound Intensity Probe is built using ICP type preamplifiers. 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, SI502 can be directly connected to ICP inputs to perform sound intensity measurements.

Features

- ICP® powered
- 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.

The SI502 is constructed on a face-to-face design. It comprises a robust frame which holds two ICP 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 MP201 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. SI502 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 SI502	
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	Three-pin Lemo in the Probe
Cable to ICP inputs	5 m cable with Lemo to 2 BNC connectors
Case Dimensions	400 x 200 x 70 mm
MICROPHONE PAIRS	
Microphones	Selected Type 1 MP201 for intensity microphone pair
Diameter	1/2 inch
Response	Free Field
Combined Sensitivity	45 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 mm ³ at 250 Hz
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
Preamplifier	BSWA Type MA211 preamplifier

