**SI512 Sound Intensity Probe**

*Sound Intensity Probe*

**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**

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<tr>
<th>Sound Intensity Probe SI512</th>
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<tr>
<td><strong>Standard</strong></td>
<td>IEC 1043 Class 2</td>
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| **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 mm³
- **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.