Sound Intersity 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.

Outdoor Microphones

OM231/ OM416

Outdoor microphones are for outdoor uses such as the outdoor acoustic measurement or community and traffic noises monitoring. BSWA outdoor microphones are fitted with a windscreen, a rain protection, and a bird spike to protect them from wind, rain, snow and other atrocious weather. An adaptor pole is also included in the package which helps to connect the outdoor microphone to a camera and which also plays a role for protectng the cable.

BSWA outdoor microphones can be calibrated by a pistonphone by removing the windscreen and the rain protection.

The directional angle is 0° for airport noise monitoring and 90 ° for community and traffic noises monitoring.

OM231 is 1/2 inch prepolarized condenser outdoor microphone. It is suitable for use in rainy days or in an environment at very high or very low temperature. OM231 uses IEC 61672 CLASS 1 measurement microphone which is outstanding for its stability. It is the best choice for permanent outdoor use such as the airport noise monitoring.

OM416 is a low-cost outdoor microphone. It uses1/4'' ICCP microphone, which makes it suitable for 0° and 90 ° measurements. The OM416 is designed with disposable microphone concept. The microphone is easily removed and replaced after about six months of outdoor uses.

SPECIFICATIONS

Outdoor Microphones		
Model	OM231	OM416
Sensitivity	40 mV/Pa	50 mV/Pa
Microphone Diameter	1/2''	1/4''
Frequency Response	20 Hz ~ 20 kHz	20 Hz ~20 kHz
Dynamic Range (3% Distortion Limit)	17 ~136 dB	29 ~127 dB
Polarization Voltage	0 V	0 V
Power Supply	4 mA	4 mA
Calibration Sound Press Level	94 dB	94 dB
Reference direction	0° or 90	0° or 90°
Output Connector	BNC	SMB
IEC 61672	Class 1	Class 2
Temperature (°C)	-30 ~ 80	-10 ~ 50
Humidity (RH)	0 ~ 95%	0 ~ 95%