GRAS 50AI-L

1/2" CCP Intensity Probe for Siemens DAQ

Freq range: Ref. IEC 61043 Class 1
Dyn range: 25 dB(A) to 152 dB
Sensitivity: 12.5 mV/Pa

The GRAS 50AI-L 1/2" CCP Intensity Probe for Siemens DAQ is a general purpose sound intensity probe with remote control and direct connection to Siemens data acquisition modules with ICP inputs.

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Typical applications

- Sound-power measurements
- Sound-source location and ranking
- Sound Intensity mapping

Design

The GRAS 50AI-L 1/2" CCP Intensity Probe for Siemens DAQ is a sound intensity probe for direct connection to Siemens data acquisition modules with ICP inputs.

The probe includes a pair of phase matched prepolarized measurement microphones that meet the requirements of IEC standard 61043 for a class-1 intensity probe. The small rugged ¼" CCP preamplifiers ensure minimum disturbances to the sound field for accurate measurements in the full frequency range.

The probe set includes solid interchangeable spacers for microphone separation. These spacers can be easily interchanged without dismantling the probe.

The 50AI-L comes with spacers from 12 mm to 100 mm so that the probe can cover the frequency range from 30 Hz to 10 kHz.

All components are made specifically for sound intensity applications. Both small ¼" diameter by 40 mm long microphone preamplifiers are housed in robust, stainless steel casings. This enables novel probe designs for reducing disturbances to the sound field otherwise brought about by the effects of shadows and diffraction, and a symmetry that enables reliable calibrations as described in the proposed standard (ISO/DIS 9614-2) for sound power measurements using sound intensity measurements.

The microphone is a ½" free-field prepolarized microphone with a uniquely-designed pressure equalisation system that ensures extremely well defined phase characteristics.

The microphone and preamplifier are mounted on a swivel head on the telescopic arm of the handle. This flexible solution allows measurements very close to the sound source.

The 50AI-L is assembled and tested by GRAS before leaving the factory. An individual test certificate is included.

Calibration

Before leaving the factory, all GRAS products are calibrated in a controlled laboratory environment using traceable calibration equipment. We recommend a yearly recalibration at minimum, depending on the use, measurement environment, and internal quality control programs. We recommend calibration prior to each use to ensure the accuracy of your measurements.

Warranty

All GRAS products are made of high-quality materials that will ensure life-long stability and robustness. The 50AI-L is delivered with a 5-year warranty.

Damaged diaphragms in microphones can be replaced. The warranty does not cover products that are damaged due to negligent use, an incorrect power supply, or an incorrect connection to the equipment.

For more information, contact your GRAS representative.

Service and Repair

All repairs are made at GRAS International Support Center located in Denmark. Our Support Center is equipped with the newest test equipment and staffed with dedicated and highly skilled engineers.

Upon request, we make cost estimates based on fixed repair categories.

If a product covered by warranty is sent for service, it is repaired free of charge, unless the damage is the result of negligent use or other violations of the warranty. All repairs are delivered with a service report, as well as an updated calibration chart.

Specifications

Polarization/Connection		0 V / CCP
Frequency range (±2 dB)	Hz	Ref. IEC 61043 Class 1
Dynamic range lower limit (microphone thermal noise)	dB(A)	25
Dynamic range upper limit	dB	152
Set sensitivity @ 250 Hz (±2 dB)	mV/Pa	12.5
Polarization voltage	V	0 V
Microphone venting		Rear
Temperature range, operation	°C / °F	5 to 40 / 41 to 104
Temperature coefficient @250 Hz	dB/°C / dB/°F	-0.01
Humidity range non condensing	% RH	0 - 100
Humidity coefficient @250 Hz	dB/% RH	-0.001
Influence of axial vibration @1 m/s²	dB re 20 µPa	66
Connector type		12-pin LEMO
CE/RoHS compliant/WEEE registered		Yes/Yes/Yes
Weight	g / oz	400 / 14.110

GRAS Sound & Vibration reserves the right to change specifications and accessories without notice.

GRAS Worldwide

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About GRAS Sound & Vibration

GRAS is a worldwide leader in the sound and vibration industry. We develop and manufacture state-of-the-art measurement microphones to industries where acoustic measuring accuracy and repeatability is of utmost importance in R&D, QA and production. This includes applications and solutions for customers within the fields of aerospace, automotive, audiology, and consumer electronics. GRAS microphones are designed to live up to the high quality, durability and accuracy that our customers have come to expect and trust.

GRAS Sound & Vibration is represented through subsidiaries and distributors in more than 40 countries and is part of Axiometrix Solutions, a leading test solutions provider comprised of globally recognized measurement brands. Read more at www.GRASacoustics.com

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