GRAS 40PH-10

CCP Free-field Array Microphone





Freq range: 10 Hz to 20 kHz Dyn range: 33 dB(A) to 135 dB

Sensitivity: 50 mV/Pa

The GRAS 40PH-10 Array Microphone is a low-cost microphone for general purpose measurements in arrays and matrices.



Technology

Typical applications and use

- Multi-channel measurements
- Sound-field analyses
- Sound-power measurements
- Concurrent spatial and transient measurements

Design

Array microphones are designed to be mounted on large or small arrays. Such systems are typically used for measuring and locating noise sources, and here the phase match is important to get good accuracy in the measurements. An important characteristic of array microphones is that the microphones are phase-matched.

40PH-10 has a wide useful frequency range reaching up to 20 kHz and a large dynamic range topping at 135 dB, the peak value before visible clipping.

It has an integrated CCP preamplifier and is delivered with a built-in TEDS chip which enables it to be programmed as a complete unit. The GRAS 40PH-10 requires a constant current power supply, e.g. the <u>GRAS 12AL</u> CCP Supply, or any other CCP compatible power supply.

Close manufacturing tolerances together with the advantages of the TEDS chip, provide the 40PH-10

with a high degree of interchangeability; a major advantage when used in multiples forming arrays and matrices.

The low cost of the 40PH-10 is a key consideration when setting up measurements requiring a multiplicity of concurrent transient and spatial data.

Calibrating the 40PH-10 with a GRAS pistonphone, e.g. GRAS 42AA, is as straight forward as calibrating

any other GRAS 1/4-inch microphone.

All GRAS microphones are individually checked and calibrated before leaving the factory. An individual calibration chart is supplied with each microphone.



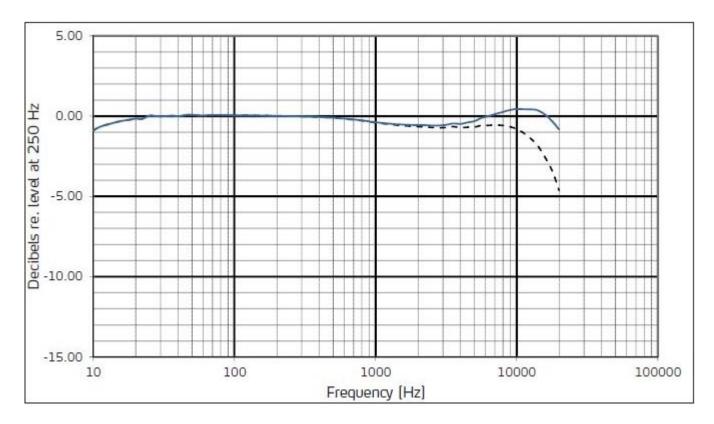
Specifications

Polarization/Connection		0 V / CCP	
Frequency range (±1.5 dB)	Hz	50 to 5 k	
Frequency range (±2 dB)	Hz	10 to 20 k	
Dynamic range lower limit (microphone thermal noise)	dB(A)	< 33	
Dynamic range upper limit	dB	135	
Set sensitivity @ 250 Hz (±2 dB)	mV/Pa	50	
Power supply (Constant Current Power)	mA	2 to 20	
Microphone venting		Front	
Output impedance	Ω	< 50	
Temperature range, operation	°C / °F	-10 to 50 / -50 to 122	
Temperature range, storage	°C / °F	-20 to 60 / -4 to 140	
Influence of axial vibration @1 m/s²	dB re 20 μPa	55	
TEDS (IEEE 1451.4)		27 v. 1.0	
Connector type		SMB	
CE/RoHS compliant/WEEE registered		Yes / Yes / Yes	
Weight	g / oz	5.50 / 0.20	
Phase Match			
50Hz - 100Hz	±	±5°	
100Hz - 3kHz	±3°		
3kHz - 5kHz	±5°		
5kHz - 10kHz	±	10°	

Frequency response according to IEC 61672-1



Specifications



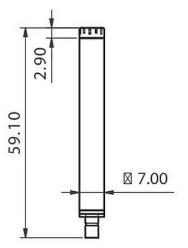
Typical frequency response

Upper curve shows free-field response at 0°, lower curve (dotted line) shows pressure response.

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



Dimensions in mm





Ordering info

Optional items

GRAS AA0027 3 m SMB - BNC Cable

GRAS 12AL 1-Channel CCP Power Module with A-weighting filter

GRAS PR0002 Array Module

GRAS AM0364 Windscreens (set of 6)

GRAS RA0092 Rain-protection cap

GRAS 42AA Pistonphone, Class 1

GRAS 42AG Multifunction Sound Calibrator, Class 1

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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 and related equipment for industries where acoustic measuring accuracy and repeatability are of the utmost importance. This includes applications and solutions for customers within the fields of aerospace, automotive, audiology, consumer electronics and other highly demanding industries. GRAS microphones are designed to live up to the high quality, durability and accuracy that our customers have come to expect, trust and require.

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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