

GRAS 40PK

CCP Free-field QC Microphone, Short



Freq range: 10 Hz to 20 kHz
Dyn range: 26 dB(A) to 145 dB
Sensitivity: 18 mV/Pa

The 40PK is a free-field microphone for Quality Control and measurements in confined spaces. It has a wide frequency range reaching up to 20 kHz and a large dynamic range from <26 dB (A) to 145 dB.

Typical applications and use

- Production-line testing of drivers, receivers, and microspeakers
- Measurements in confined spaces

Design

The GRAS 40PK CCP Free-field QC Microphone, short is a robust, cost-effective microphone designed for use in production-line testing of loudspeakers and acoustic transducers. It has a wide frequency range reaching up to 20 kHz and a large dynamic range from 26 dB (A) to 145 dB.

The cost-effectiveness of the 40PK is a key consideration when setting up multiple production lines. Close manufacturing tolerances provide the 40PK with a high degree of interchangeability – a major advantage when used in production-line test setups.

The 40PK is very short and can therefore be used in confined spaces where its bigger equivalent, the 40PP cannot be used. Close manufacturing tolerances provide the 40PK with a high degree of interchangeability – a major advantage when used in production-line test setups.

The standard SMB connector of the 40PK ensures an easy-to-handle setup and supports the use of standard RG174 cable all the way from the microphone to the input module.

Compatibility

The integrated CCP (Constant Current Power) preamplifier requires a constant-current power supply, such as the [GRAS 12AL](#) 1-Channel CCP Power Module with A-Weighting filter, or any other CCP compatible power supply or input module. The built-in TEDS (Transducer Electronid Data Sheet, according to IEEE 1451.4) chip provides information about the microphone that can be used by systems

designed for use with TEDS.

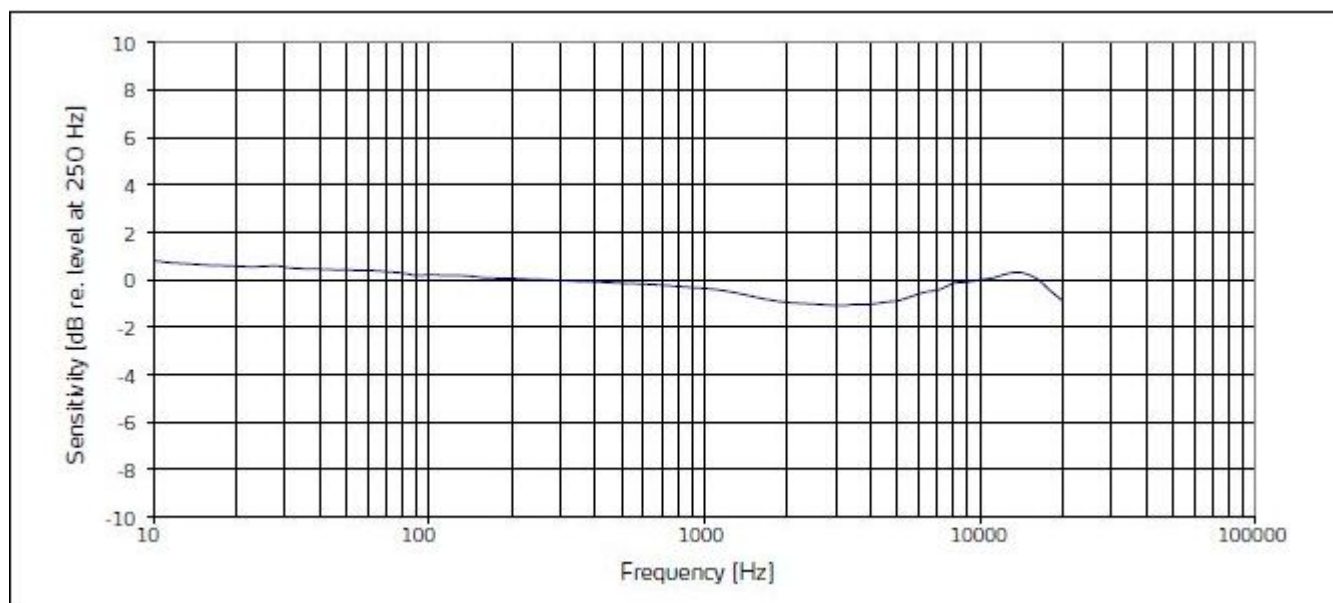
To fully benefit from its short length, the cable with an angled SMB connector should be chosen (see the tab Ordering info).

System verification

The functionality of TEDS is very useful for determining what microphone is connected to your respective input channels. However, it is not a check of whether the microphone is within specifications or not. For daily verification and check of your measurement setup we therefore recommend using a sound source like the GRAS 42AG Multifunction Sound Calibrator.

For proper sensitivity calibration we recommend using a reference sound source like the GRAS 42AP Intelligent Pistonphone.

| | | |
|--|---|------------------------|
| Polarization/Connection | | 0 V / CCP |
| Frequency range (± 2 dB) | Hz | 10 to 10 k |
| Frequency range (± 3 dB) | Hz | 10 to 20 k |
| Dynamic range lower limit with GRAS preamplifier | dB(A) | <26 |
| Dynamic range upper limit | dB | 145 |
| Set sensitivity @ 250 Hz (± 2 dB) | mV/Pa | 18 |
| Power supply (Constant Current Power) | mA | 2 to 20 |
| Microphone venting | | Front |
| Output impedance | Ω | <50 |
| Temperature range, operation | $^{\circ}\text{C}$ / $^{\circ}\text{F}$ | -10 to 50 / 14 to 122 |
| Temperature range, storage | $^{\circ}\text{C}$ / $^{\circ}\text{F}$ | -40 to 85 / -40 to 185 |
| Influence of axial vibration @1 m/s ² | dB re 20 μPa | 50 |
| TEDS (IEEE 1451.4) | | 27 v. 1.0 |
| Connector type | | SMB |
| CE/RoHS compliant/WEEE registered | | Yes/Yes/Yes |
| Weight | g / oz | 3.5 / 0.12346 |



Typical frequency response

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



Length (incl. connector): 34 mm
Diam.: 7 mm



Optional items

| | |
|-----------------------------|--|
| GRAS AA0027 | 3 m SMB - BNC Cable |
| GRAS AA0078 | 3 m SMB angled - BNC Cable |
| GRAS AL0028 | 7 mm Microphone Holder, POM |
| GRAS AL0005 | Swivel head |
| GRAS AL0006 | Tripod |
| GRAS 12AL | 1-Channel CCP Power Module with A-weighting filter |
| GRAS 12AQ | 2-Channel Universal Power Module with signal conditioning and PC interface |
| GRAS 42AG | Multifunction Sound Calibrator, Class 1 |
| GRAS 42AP | Intelligent Pistonphone, Class 0 |

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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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