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.

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GRAS Sound & Vibration

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.

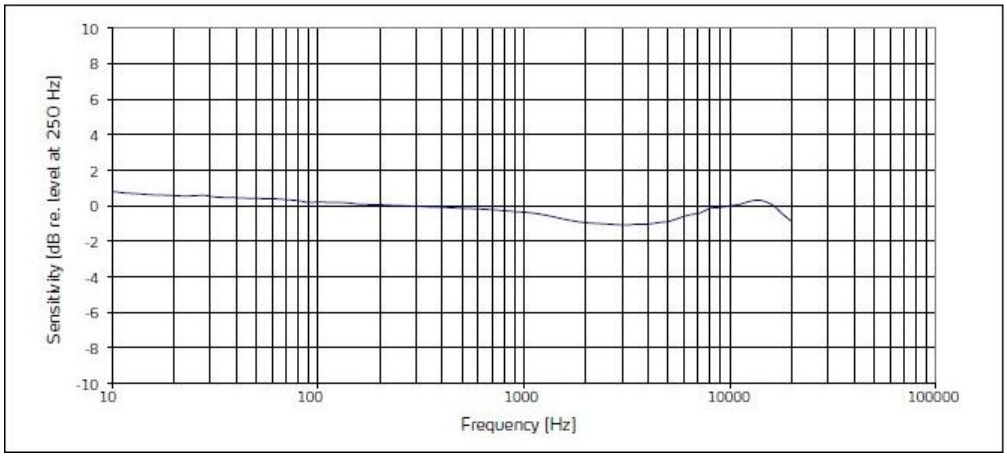
To fully benefit from its short length, the cable with an angled SMB connector should be chosen (see the tab Ordering info).

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.

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	°C / °F	-10 to 50 / 14 to 122
Temperature range, storage	°C / °F	-40 to 85 / -40 to 185
Influence of axial vibration @1 m/s²	dB re 20 µPa	50
TEDS UTID (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.

Dimensions

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

Optional items

GRAS AA0027	3 m SMB - BNC Cable
GRAS AA0082-CL	Customized Length SMB - BNC Cable
GRAS AA0078	3 m SMB angled - BNC Cable
GRAS AA0081-CL	Customized Length 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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We Make Microphones

Tradition

Since the establishment in 1994, GRAS has been 100% dedicated to developing and manufacturing high-quality measurement microphones and related acoustic equipment.

Innovation

We work with everybody with an interest in sound or noise within the fields of aerospace, automotive, audiology, consumer electronics, noise monitoring, building acoustics and telecommunications.

Quality

At GRAS we know that in order for you to trust your measurement results; signal quality, stability and robustness are essentials. We design and build them to perform under real life conditions – and beyond.

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