

# Surface Microphone Type 40PS

## Product Data and Specifications

### Features and applications

- *Noise measurements on vehicle surfaces in wind tunnels and in operation*
- *Uses Constant Current Power supply (CCP)*
- *Built-in TEDS*
- *Flush mounting on planar and curved surfaces*
- *Low sensitivity to surface bending at the mounting point*
- *Built-in water-repellent grid*

The G.R.A.S. Surface Microphone Type 40PS (Fig. 1) is a low-cost microphone for general purpose measurements on planar and curved surfaces. It has a wide useful frequency range reaching up to 20kHz (Fig. 2) and a large dynamic range topping at around 136dB.

It has an integrated CCP<sup>1</sup> preamplifier and is delivered with a built-in TEDS<sup>2</sup> chip which enables it to be programmed as a complete unit. The Type 40PS requires a constant-current power supply, e.g. the G.R.A.S. CCP Supply Type 12AL, or any other CCP compatible power supply.

Close manufacturing tolerances together with the advantages of the TEDS chip, provide the Type 40PS with a high degree of interchangeability; a major

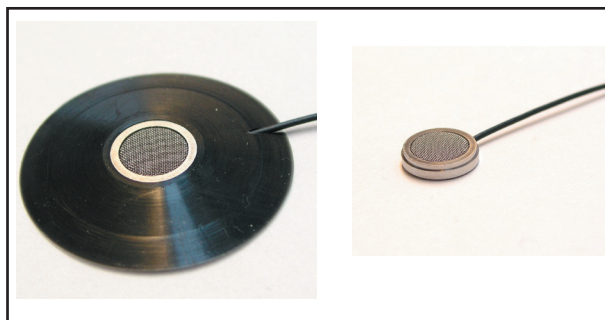


Fig. 1 Surface Microphone Type 40PS  
Left: with fairing  
Right: without fairing

advantage which excludes accounting for individual characteristics.

The Type 40PS is both stable and robust. It has an integrated 1 m co-axial cable with a microdot connector and is delivered with a supple detachable silicon-rubber fairing.

Because of its lightness, the microphone with fairing can readily be mounted on surfaces using double-sided adhesive tape.

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

- 1 CCP type transducers are available from various suppliers under different trade names such as ICP®, Deltatron®, Isotron®, IEPE and Piezotron®.
- 2 Transducer Electronic Data Sheet - as proposed by IEEE-P1451.4

### Specifications

Values quoted for 23 °C and 4 mA supply	
<b>Nominal Sensitivity :</b> at 250Hz.....	5 mV/Pa
<b>Frequency Response:</b> ±1 dB .....	100 Hz - 3 kHz
±3 dB .....	20 Hz - 20 kHz
<b>Upper Limit of Dynamic Range:</b> Max. without clipping .....	136 dB re. 20 µPa
<b>Lower Limit of Dynamic Range:</b> Thermal noise.....	< 30 dBA re. 20 µPa
<b>Temperature Range:</b>	-20 °C to +80 °C
...continued overleaf	

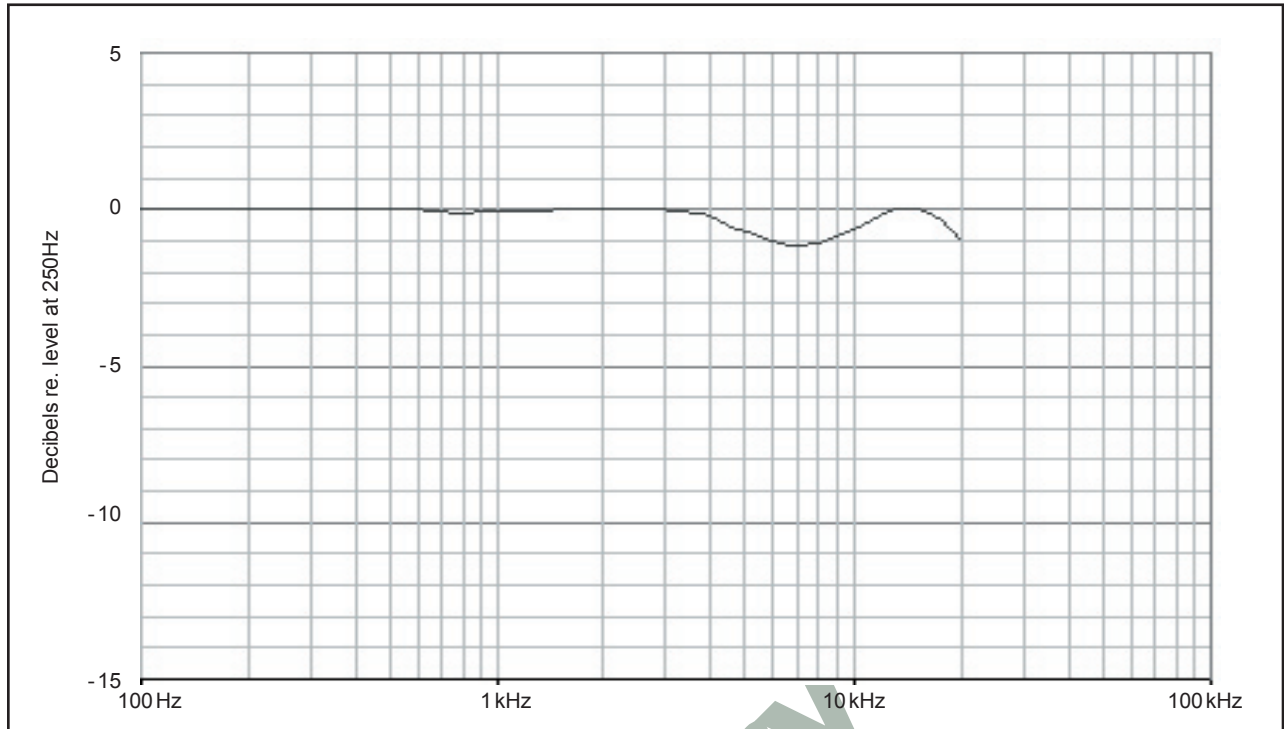


Fig. 2 Typical pressure frequency response for Type 40PS

*Specifications (continued)*

<b>Output impedance:</b>	< 50 Ω	<b>Weight:</b>	3 g
<b>Output:</b>	Integral cable with coaxial microdot connector	<b>Power supply:</b>	2 mA to 10 mA (typically 4 mA)
<b>Cable:</b>		<b>Accessories included:</b>	
length: .....	1.5 m	Fairing: .....	GR0015
diameter: .....	1.1 mm	Adhesive tape: .....	GR0933
special: .....	on request		(pre-cut, single-sided)
<b>Thickness:</b>	2.8 mm	Adhesive tape: .....	GR0934
			(pre-cut, double-sided)
<b>Diameter:</b>		Cleaning tissue: .....	MI0031
With fairing .....	40 mm	Adapter: .....	AE0046
Without fairing .....	13.2 mm		(BNC male to microdot female)
		<b>Available accessories:</b>	
		CCP supply: .....	Type 12AL

G.R.A.S. Sound & Vibration reserves the right to change specifications and accessories without notice