



Model EX378B02

HAZARDOUS APPROVED MICROPHONE AND PREAMPLIFIER

- ATEX, IECEx, and ETL c/us approvals
- I M1 Ex ia I T4 -40°C ≤ Tamb ≤ 80°C
- Class 1, Division 1, Groups A, B, C, and D
- Class 1, Zone 0, AEx ia/Ex ia IIC T4 Ga
- Prepolarized (0V) design
- 15.5 dBA to 137 dB capability
- High sensitivity, 50 mV/Pa
- Uses cost effective coaxial cables
- A2LA, ILAC accredited

Typical Applications

- Leak detection
- Mine safety
- Gas tank testing
- Environmental noise monitoring
- Measurements in potentially hazardous areas



Use of model EX378B02

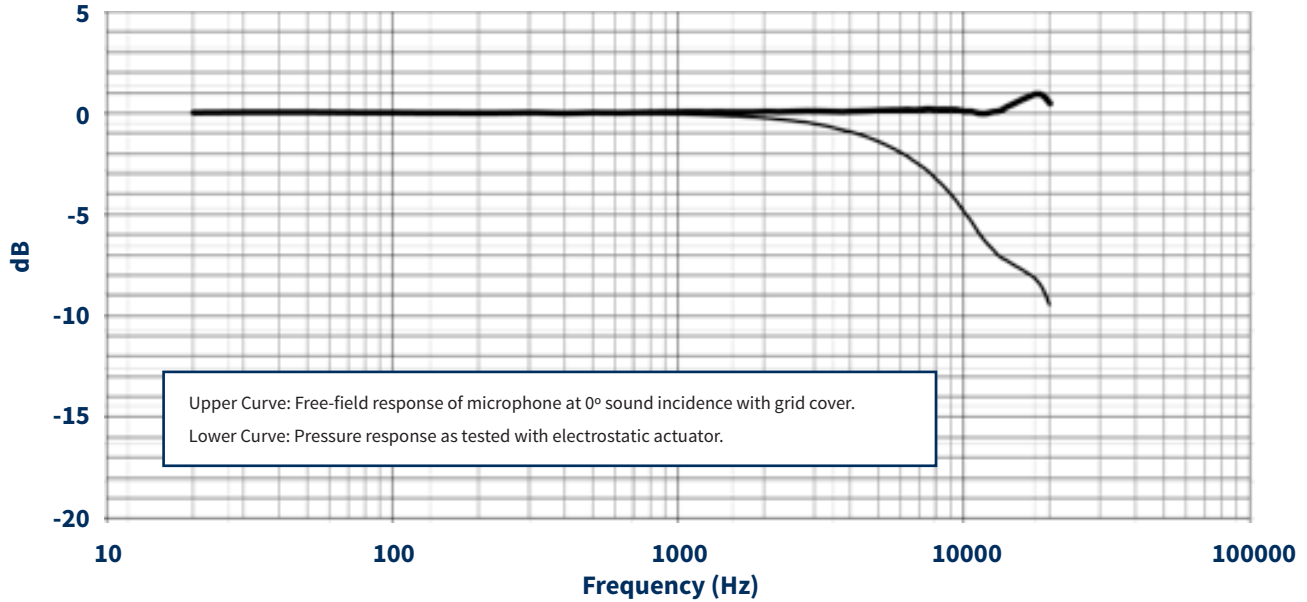
The EX378B02 is an INDUSTRY EXCLUSIVE prepolarized condenser microphone system. It is Hazardous Locations & Explosive Atmospheres compliant and can safely be employed in gaseous hazardous environments where standard microphones may cause a spark and fire. The EX378B02 is equipped with a Free-field microphone cartridge and complies with Intrinsic Safety Protection Levels for all above ground applications globally, and also complies with below ground Very High (Ma) Mine Safety protection levels for all mining locations outside of North America.

ICP® (0V) Polarization

PCB® is the inventor of ICP® sensor power technology. Prepolarized microphones operate on this same ICP® sensor power or 2-20 mA constant current supply and use standard coaxial cables. The low cost power supplies and cables for prepolarized microphones can be shared with other ICP® compatible products such as accelerometers and pressure sensors, which results in a significant per-channel cost savings and reduced test set-up time.



Frequency Response (0 dB @251.2 Hz)



Upper Curve: Free-field response of microphone at 0° sound incidence with grid cover.
 Lower Curve: Pressure response as tested with electrostatic actuator.

SPECIFICATIONS		
Model Number	EX378B02	
Acoustic Specifications		
Sensitivity at 1000 Hz	50 -26 (± 1.5 dB)	mV/Pa dB re 1.5 V/Pa
Frequency Range ± 2 dB	3.75 -20,000	Hz
Inherent Noise	≤ 15.5	dB[A] re 20 µPa
Harmonic Distortion Limit: 3%	≥ 137	dB re 20 µPa
Max Sound Pressure Level Peak	147	dB re 20 µPa
Environmental Specifications		
Operating Temperature Range	-40 to 80 (40 to 176)	°C / °F
Temperature Coefficient	+0.009	dB / °C
Static Pressure Coefficient	-0.013	dB / kPa
Humidity Coefficient	± 0.001	dB / %RH
Electrical		
Polarization Voltage	0	V
Maximum Output Voltage	± 7	Vpk
Constant Current Excitation	2 -20	mA
Physical		
Diameter with Grid	13.2 (0.52)	in (mm)
Height with Grid	4.02 (102.1)	in (mm)
Pressure Equalization Vent	Rear	---
Weight	1.87 (53)	oz (grams)

Optional accessories:

- 079A06 – 1/2" microphone windscreen
- 079A11 – 1/2" microphone holder
- 079A15 – tripod microphone stand with boom arm
- 079A16 – miniature microphone stand
- 079A18 – clamp on flexible extension arm
- 079C23 – microphone holder with swivel mount
- 079A44 – extension arm for flexible clamp
- CAL200 – handheld calibrator
- ACS-42 – microphone and preamplifier system calibration

PCB® Quality Commitment

PCB acoustic products are used by some of the world's largest automotive, aerospace & defense, electronic, and consumer goods manufacturers. PCB uses the highest quality materials for its microphones. While other manufacturers outsource their manufacturing, PCB has invested in a state of the art, in-house CNC machining facility, allowing greater control over quality and delivery. PCB has also invested in a clean room, anechoic chamber, and environmental test chambers to provide quality products. Our rigorous environmental testing and aging process ensures that our products will survive in demanding temperature or humidity conditions. PCB microphones are backed by a best-in-class 5-year warranty and our "Total Customer Satisfaction" (TCS) policy. Application support is available through our 24-Hour SensorLineSM at 716-684-0001.



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| VISIT US AT WWW.PCB.COM |

PCB® is a designer and manufacturer of microphones, vibration, pressure, force, torque, load, and strain sensors, as well as the pioneer of ICP® technology used by design engineers and predictive maintenance professionals worldwide for test, measurement, monitoring, and control requirements in automotive, aerospace, industrial, R&D, military, educational, commercial, OEM applications, and more. With a worldwide customer support team, 24-hour SensorLineSM, and a global distribution network **PCB® IS COMMITTED TO TOTAL CUSTOMER SATISFACTION.**