



MODEL EX378B02

## HAZARDOUS AREA APPROVED MICROPHONE

- Sensitivity: 50 mV/Pa ( $\pm 1.5$  dB)
- Prepolarized (0V) design
- Frequency: 3.75 Hz – 20 kHz

### TYPICAL APPLICATIONS

- Leak detection & gas tank testing
- Mine safety
- Environmental noise monitoring

### STANDARDS COMPLIANCE

- ATEX, IECEx, and ETL c/us approvals
- M1 Ex ia I T4 -40°C  $\leq$  Tamb  $\leq$  80°C
- Class 1, Division 1, Groups A, B, C, and D
- Class 1, Zone 0, AEx ia/Ex ia IIC T4 Ga
- PCB calibration service accredited to ISO 7025, ANSI-Z540.3 by A2LA or ILAC



### USE OF MODEL EX378B02

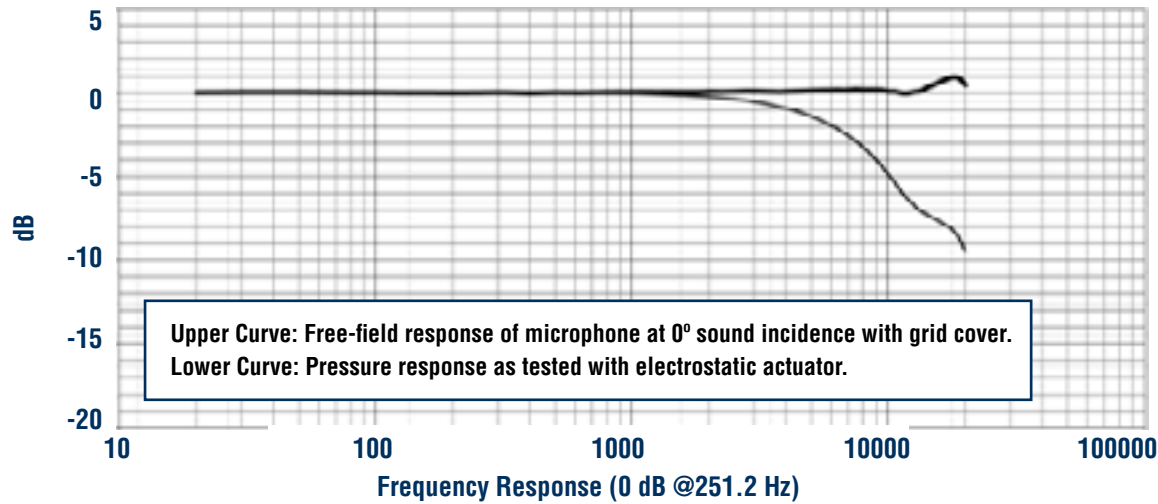
Model EX378B02 is an industry exclusive prepolarized condenser microphone system. This microphone is Hazardous Areas & Explosive Atmospheres compliant and can safely be employed in gaseous hazardous environments where standard microphones may cause a spark or fire. The EX378B02 is equipped with a free-field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

### POLARIZATION VOLTAGE – ICP® (0V) PREPOLARIZED

PCB® is the inventor of ICP® sensor power technology. All manufacturers of IEC 61094-4 compliant prepolarized (0V) microphones use the technology that PCB developed. Prepolarized microphones operate on 2-20 mA constant current supply and use coaxial cables resulting in significant per channel cost savings over the PCB 200V models. Other ICP® compatible sensors such as accelerometers, force, strain, and pressure sensors use the same power supplies and cables as prepolarized microphones, further reducing set-up time and initial investment costs.

# PCB® QUALITY COMMITMENT

PCB is uniquely equipped with a state of the art, CNC machining facility, allowing control over quality, pricing, and delivery. Investments in clean rooms, anechoic, and environmental test chambers, combined with our rigorous testing and aging process, ensures our products will survive in demanding environmental conditions. PCB has the industry's best 5-year warranty with a "Total Customer Satisfaction" policy.



EX378B02 HAZARDOUS APPROVED PREPOLARIZED FREE-FIELD MICROPHONE		
Nominal Microphone Diameter	in (mm)	1/2 (12)
Sensitivity at 250 Hz (± 1.5 dB)	mV/Pa (dB re 1 V/Pa)	50 (-26)
Frequency Range (± 2 dB)	Hz	3.75 - 20,000
Frequency Range (± 1 dB)	Hz	7 - 10,000
Inherent Noise	dB[A] re 20 µPa	15.5
Harmonic Distortion Limit: 3%	dB re 20 µPa	137
Environmental Specifications		
Operating Temp. with 426E01 Preamp	°F (°C)	-40 to +176 (-40 to +80)
Temperature Coefficient of Sensitivity	dB / °C	+0.006
Static Pressure Coefficient (dB/kPa)	dB / kPa	-0.009
Humidity Coefficient (0 - 100% non-condensing)	dB / %RH	±0.001
Electrical Specifications		
Polarization Voltage	V	0
Constant Current Excitation	mA	2 - 20
Physical Specifications		
Size (Diameter x Length with Grid)	in (mm)	0.52 x 4.02 (13.2 x 102.1)
Connector	Coaxial	BNC Jack

\* all specifications typical unless otherwise noted

## OPTIONAL ACCESSORIES

- **079A06** – 1/2" microphone windscreen
- **079A11** – 1/2" microphone holder
- **079A15** – tripod microphone stand with boom arm
- **079B16** – 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 system calibration



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PCB Piezotronics, Inc. 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. Visit www.pcb.com for more information. PCB Piezotronics, Inc. is a wholly owned subsidiary of MTS Systems Corporation. Additional information on MTS can be found at www.mts.com.

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