



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

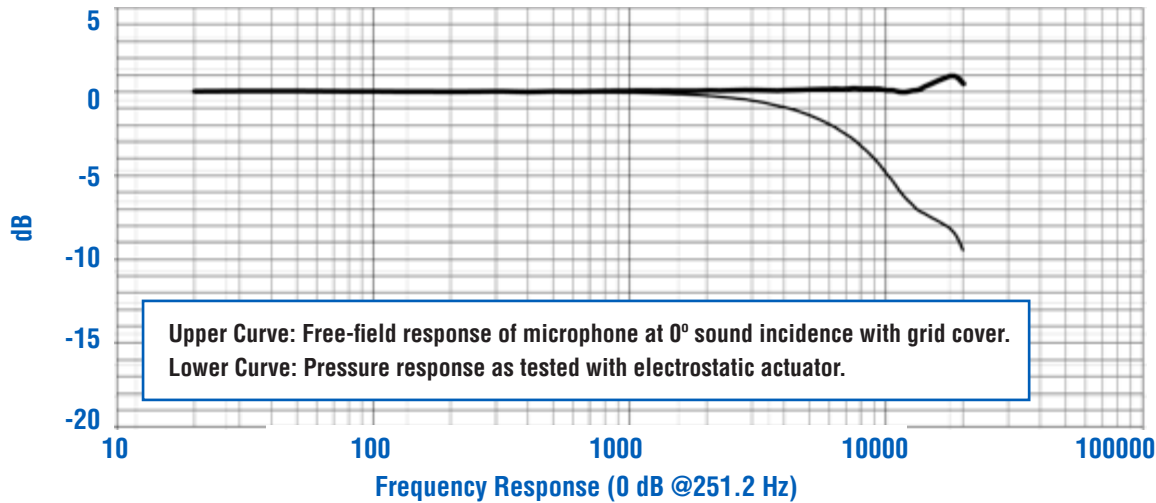
Model EX378B02 is an industry exclusive prepolarized condenser microphone system. This microphone is Hazardous Areas & Explosive Atmospheres compliant and can safely be employed in gaseous hazardous environments where standard microphones may cause a spark or fire. The EX378B02 is equipped with a free-field 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<br>(°C)           | -40 to +176<br>(-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<br>(mm)           | 0.52 x 4.02<br>(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