


High Sensitivity Pressure Sensors

Highlights:

- Fast rise time of $\leq 2 \mu\text{sec}$ from quartz element
- High resonant frequency of $\geq 250 \text{ kHz}$
- Contains a rigid, multi-plate quartz element for high output
- Internal acceleration compensation minimizes vibration sensitivity

High sensitivity ICP[®] pressure sensors are a popular choice for low pressure measurements requiring excellent resolution and small size. PCB[®] Series 112A pressure sensors are used to measure small dynamic hydraulic and pneumatic pressures such as turbulence, noise, sound, and pulsations, especially in adverse environments. They are capable of measuring high-intensity sound pressures from 111 to 210 dB at any static pressure level from full vacuum to 1,000 psi (6,895 kPa).

High Sensitivity Pressure Sensors			
			
Model Number	112A22	112A21	112A03
Measurement Range	50 psi 345 kPa	100 psi 690 kPa	10 kpsi 68,950 kPa
Useful Overrange [1]	100 psi 690 kPa	200 psi 1380 kPa	—
Sensitivity	100 mV/psi 14.5 mV/kPa	50 mV/psi 7.25 mV/kPa	1.1 pC/psi 0.16 pC/kPa
Maximum Pressure (Static)	500 psi 3450 kPa	1 kpsi 6895 kPa	15 kpsi 103,420 kPa
Resolution	1 mpsi 0.007 kPa	2 mpsi 0.014 kPa	2 mpsi [3] 0.014 kPa [3]
Resonant Frequency	$\geq 250 \text{ kHz}$	$\geq 250 \text{ kHz}$	$\geq 250 \text{ kHz}$
Rise Time (Reflected)	$\leq 2 \mu\text{sec}$	$\leq 2 \mu\text{sec}$	$\leq 2 \mu\text{sec}$
Low Frequency Response (-5 %)	0.5 Hz	0.5 Hz	—
Non-linearity [2]	$\leq 1 \%$	$\leq 1 \%$	$\leq 1 \%$
Acceleration Sensitivity	$\leq 0.002 \text{ psi/g}$ $\leq 0.0014 \text{ psi/(m/s}^2\text{)}$	$\leq 0.002 \text{ psi/g}$ $\leq 0.0014 \text{ psi/(m/s}^2\text{)}$	$\leq 0.002 \text{ psi/g}$ $\leq 0.0014 \text{ psi/(m/s}^2\text{)}$
Temperature Range	-100 to +275 °F -73 to +135 °C	-100 to +275 °F -73 to +135 °C	-400 to +400 °F -240 to +204 °C
Discharge Time Constant	$\geq 1 \text{ sec}$	$\geq 1 \text{ sec}$	—
Electrical Connector	10-32 Coaxial Jack	10-32 Coaxial Jack	10-32 Coaxial Jack
Housing Material	17-4 PH Stainless Steel	17-4 PH Stainless Steel	17-4 PH Stainless Steel
Diaphragm Material	Invar	Invar	Invar
Sealing	Welded Hermetic	Welded Hermetic	Welded Hermetic
Supplied Accessories			
Clamp Nuts	(1) 060A03, 060A05	(1) 060A03, 060A05	(1) 060A03, 060A05
Seal Rings	(3) 065A02, 065A05	(3) 065A02, 065A05	(3) 065A02, 065A05
Additional Versions			
Ground Isolated	102A07	102A05	—
Ablative Coating	CA102A07	CA102A05	—
Stainless Diaphragm	S112A22	S112A21	S112A03
Additional Accessories			
English Installation Tooling Kit	040A10	040A10	040A10
Metric Installation Tooling Kit	040A11	040A11	040A11
Mounting Adaptors	061A01, 061A10, 062A01, 061A59, 064B02	061A01, 061A10, 062A01, 061A59, 064B02	061A01, 061A10, 062A01, 061A59, 064B02
Mating Cable Connector	EB	EB	EB
Recommended Cables	002, 003 CE	002, 003 CE	003
Notes			
[1] For +10 volt output, minimum 24 VDC supply voltage required. Negative 10 volt output may be limited by output bias. [2] Zero-based, least-squares, straight line method.			