CRYOGENIC ACCELEROMETERS & PRESSURE SENSORS

PCB PIEZOTRONICS
AN AMPHENOL COMPANY

ENDEVCO
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CRYOGENIC ICP® ACCELEROMETERS

Cryogenic ICP® accelerometers are specifically designed to operate at temperatures below the typical -65 °F (-54 °C) temperature limit of most voltage mode sensors. The use of specialized, built-in, cryogenic ICP® circuitry and quartz shear sensing technology provides survivability in demanding environments such as liquid nitrogen. Each sensor is hermetically sealed and individually tested to determine the thermal coefficient of sensitivity at -320 °F (-196 °C) ensuring reliable operation and accurate measurements. Choose from a variety accelerometers ranging from lightweight units for minimizing mass loading effects to high sensitivity versions for sensing low-level vibrations.

CRYOGENIC ICP® ACCELEROMETERS					
Model Number	**PCB 351B03**	**PCB 351B04**	**PCB 351B31**	**PCB 351B41**	**PCB 351B42**
Performance					
Sensitivity	10 mV/g (1.02 mV/(m/s²))		50 mV/g (5.10 mV/(m/s²))	100 mV/g (10.2 mV/(m/s²))	
Measurement Range	±150 g pk (±1472 m/s² pk)		±30 g pk (±294 m/s² pk)	±15 g pk (±147 m/s² pk)	
Frequency Range (±5%)	1 - 6000 Hz		1 - 4000 Hz	1 - 2000 Hz	
Options: Available with ground isolation	J351B03	J351B04	J351B31	J351B41	J351B42

CRYOGENIC MINIATURE ICP® ACCELEROMETERS			
Model Number	**PCB 351B11**	**PCB 351B14**	**PCB 351A15**
Performance			
Sensitivity	5 mV/g (0.51 mV/(m/s²))		5.5 mV/g (0.56 mV/(m/s²))
Measurement Range	±300 g pk (±2943 m/s² pk)		±1000 g pk (±9810 m/s² pk)
Frequency Range	1 - 10000 Hz	1 - 8000 Hz	1.25 to 6500 Hz
Options: Available with ground isolation	J351B11	J351B14	-
Options: Available in Metric	M351B11	M351B14	-

CRYOGENIC CHARGE OUTPUT PIEZOELECTRIC ACCELEROMETERS

Endevco® cryogenic piezoelectric accelerometers are built specifically for measuring vibration under cryogenic conditions down to -452 °F (-269 °C). Signal outputs of these units are very stable even at extremely low temperatures. Their rugged internal construction is designed to withstand multiple cycles of thermal shock with steep temperature gradient. The accelerometers are self-generating devices that require no external power source for operation and contain no electronics. This allows them to operate below the -320 °F (-196 °C) limit of ICP accelerometers, down to -452 °F (-269 °C).

CRYOGENIC CHARGE OUTPUT PIEZOELECTRIC ACCELEROMETERS			
Model Number	**Endevco 7722**	**Endevco 7724**	**Endevco 2271A / 2271AM20**
Performance			
Description	Immune to thermal transients, grounded design	Immune to thermal transients, isolated design	High sensitivity, side (2271A) or top exit (2271AM20) connector
Sensitivity (pC/g typical)	3.7	3.7	11.5
Sinusoidal Limit (g)	500	500	1000
Shock Limit (g)	2500	2500	10000
Frequency Response (±1 dB Hz)	1 - 6000	1 - 6000	1 - 8000

REMOTE CHARGER CONVERTERS WITH TEDS			
Model Number	**Endevco 2771C-01**	**Endevco 2771C-1**	**Endevco 2771C-5**
Performance			
Gain	.1 mV/pC	1 mV/pC	5 mV/pC
Input Type	Single-ended piezoelectric	Single-ended piezoelectric	Single-ended piezoelectric
Number of channels	1	1	1
Configuration	In-line	In-line	In-line

CRYOGENIC DYNAMIC PRESSURE SENSORS

The 102B1x Series ICP® pressure sensors feature ground isolation and low operating temperature capability ideal for measuring cryogenic pumps, cryogenic fuel systems, and rocket motor combustion instability. Each sensor is hermetically sealed and individually tested to determine the thermal coefficient of sensitivity at -320 °F (-196 °C) ensuring reliable operation and accurate measurements. PCB Models 112B05 & 112A06 are unique in their ability to withstand both extreme cold and extreme heat.

CRYOGENIC ICP® PRESSURE SENSORS				
Model Number	**PCB 102B13**	**PCB 102B14**	**PCB 102B11**	**PCB 102B10**
Performance				
Sensitivity	0.5 mV/psi (0.073 mV/kPa)	1 mV/psi (0.145 mV/kPa)	5.0 mV/psi (0.725 mV/kPa)	50 mV/psi (7.25 mV/kPa)
Measurement Range	10 kpsi (68950 kPa)	5 kpsi (34475 kPa)	1 kpsi (6895 kPa)	100 psi (690 kPa)
Resonant Frequency	≥250 kHz	≥250 kHz	≥250 kHz	≥250 kHz
Mounting Thread	3/8-24	3/8-24	3/8-24	3/8-24

CRYOGENIC ICP® PRESSURE SENSORS			
Model Number	**PCB 102M81A**	**PCB 102M80A**	**PCB 102M295 (Ground Isolated)**
Performance			
Sensitivity	10 mV/psi(1.45 mV/kPa)	50 mV/psi (7.25 mV/kPa)	1.5 mV/psi (0.218 mV/kPa)
Measurement Range	500 psi (3447 kPa)	100 psi (690 kPa)	3500 psi (24132 kPa)
Resonant Frequency	≥250 kHz	≥250 kHz	≥250 kHz
Mounting Thread	7/16-20 UNF - 2A	7/16-20 UNF - 2A	7/16-20 UNF

CRYOGENIC CHARGE OUTPUT PRESSURE SENSOR		
Model Number	**PCB 112B05**	**PCB 112A06**
Performance		
Sensitivity	1.1 pC/psi (.16 pC/kPa)	2.6 pC/psi (0.44 pC/kPa)
Measurement Range	5000 psi (34475 kPa)	5000 psi (34475 kPa)
Resonant Frequency	≥200 kHz	≥200 kHz
Mounting Thread	5/16-24	5/16-24
Temperature Range	-400 to 500°F (-240 to 260°C)	-400 to 662°F (-240 to 350°C)

LOW NOISE COAXIAL CABLE

PCB MODEL 003A

Blue TFE jacket

10-32 plug to 10-32 plug

Temperature range: -320 to +500°F (-196 to +260 °C)

1 - 100 ft. options available

LOW NOISE COAXIAL CABLE

PCB MODEL 003G

Blue TFE jacket

5-44 plug to 10-32 plug

Temperature range: -320 to +500°F (-196 to +260 °C)

3 - 30 ft. options available

LOW NOISE COAXIAL CABLE

ENDEVCO MODEL 3090C

Red PTFE jacket

10-32 plug to 10-32 plug

Temperature range: -452 to +500°F (-269 to +260 °C)

1 - 50 ft. options available

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AD-Cryogenic-0424