

**A/161, A/161-1, A/162, A/162-1, A/163-1  
Series High Shock IEPE Accelerometers**

0.1, 0.2, 0.5 mV/g  $\pm 10\%$

9.5 & 9.6gm

121°C Max



Developed for demanding applications requiring the measurement of high amplitude, short duration transient events such as pyrotechnic shock or high energy impacts, the A/16X range of stainless steel IEPE accelerometers have a range from 10,000g up to 50,000g

The design of our more standard accelerometers have limitations when used for shock applications, these can either be due to the short duration of the transient event or due to the high level of the shock amplitude, either of these elements can cause issues for the standard sensor and hybrid electronics used in the IEPE accelerometers. To overcome these issues the A/16X range has in built filters which ensure the response is linear across a wide frequency band (1Hz to 15kHz) and up to a peak amplitude measurement of 50,000g.

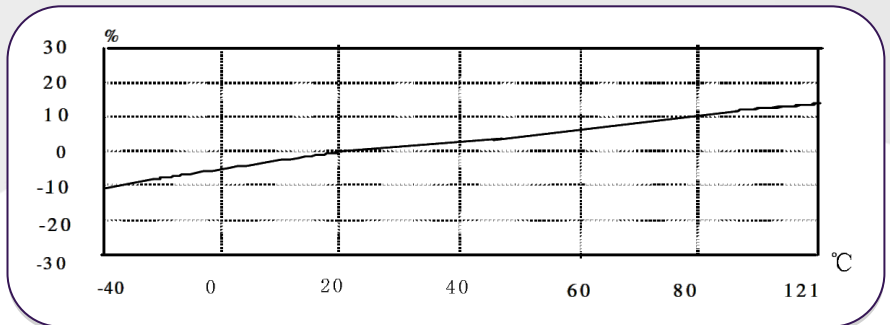
The A/16X range is also designed to withstand over testing, the accelerometers have a physical built in protection up to 60,000g, (depending on version) this is necessary due to the highly variable and sometimes unpredictable nature of pyrotechnic events.

- A/161 – M5 Microdot connector
- A/161-1 – Integral Cable
- A/162 – M5 Microdot connector
- A/162-1 – Integral cable
- A/163-1 – Integral cable

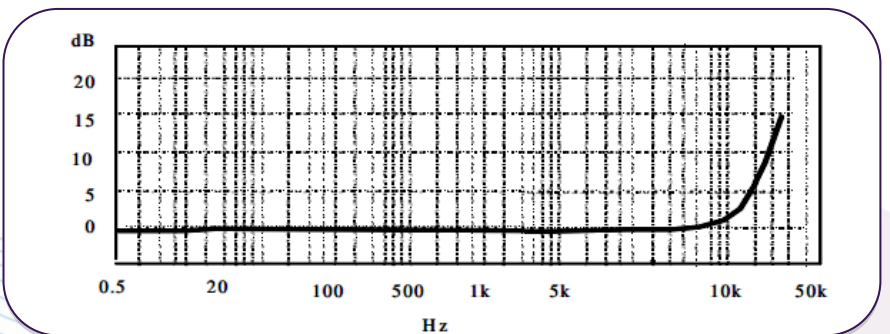
Other applications requiring high transient acceleration measurements can include:

- Pile Driver Monitoring
- Simulated Pyroshock Event
- Recoil and Penetration
- Impact Press Monitoring
- Explosive Studies
- Armour Piercing

**Temperature Response**



**Typical Frequency Response**



**A/161, A/161-1, A/162, A/162-1, A/163-1  
Series High Shock IEPE Accelerometers**

0.1, 0.2, 0.5 mV/g  $\pm 10\%$

9.5 & 9.6gm

121°C Max



	A/161	A/161-1	A/162	A/162-1	A/163-1
Sensitivity $\pm 10\%$ mV/g	0.5mV/g		0.20mV/g		0.1mV/g
Sensitivity $\pm 10\%$ mV/(m/s <sup>2</sup> )	0.05mV/(m/s <sup>2</sup> )		0.02 mV/(m/s <sup>2</sup> )		0.01 mV/(m/s <sup>2</sup> )
Range $\pm$	10,000g 98100m/s <sup>2</sup>		25,000g 245,250m/s <sup>2</sup>		50,000g 490,500m/s <sup>2</sup>
Resolution	0.3grms 2.94m/s <sup>2</sup> rms				
Frequency ( $\pm 3$ dB)	1Hz - 15kHz	1Hz - 12kHz	1Hz - 15kHz	1Hz - 12kHz	1Hz - 10kHz
Resonant Frequency	$\geq 40$ kHz				
Horizontal Sensitivity	$\leq 7\%$				
Physical Shock Limit	30000g 294,300m/s <sup>2</sup>	50000g 490,000m/s <sup>2</sup>	30000g 294,000 m/s <sup>2</sup>	50000g 490,000m/s <sup>2</sup>	60000g 588,600m/s <sup>2</sup>
Temperature Range °C	-40 to +121°C				
Temperature Range °F	-40 to +482°F				
Excitation Voltage V DC	+18 to +28				
Excitation Current	2 - 20 mA				
Output Impedance	<150 $\Omega$				
Output Bias Voltage	+8 to +12 VDC				
Isolation Installation	No	Yes	No	Yes	Yes
Sensor	Ceramic Shear				
Dimensions mm	$\varnothing 13.2 \times 26$	$\varnothing 13.2 \times 26$	$\varnothing 13.2 \times 26$	$\varnothing 13.2 \times 26$	$\varnothing 13.2 \times 26$
Dimensions inches	$\varnothing 0.52 \times 1.02$	$\varnothing 0.52 \times 1.02$	$\varnothing 0.52 \times 1.02$	$\varnothing 0.52 \times 1.02$	$\varnothing 0.52 \times 1.02$
Weight	9.5g	9.5g	9.5g	9.5g	9.6g
Installation	M5	M5	M5	M6	M6
Connection	M5	Integral Cable	M5	Integral cable	Integral cable
Enclosure	Stainless Steel				