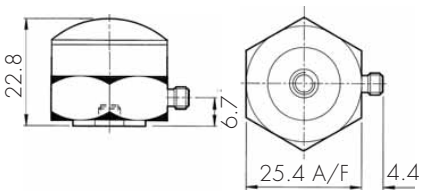
Piezo-tronic voltage source accelerometer

A/121/V
A/121/VI

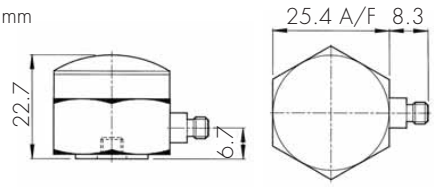
100 ; 316 ; 1000mV/g • 3 pole bandpass filter and isolated output (/VI) • 90gm wt. • 125˚C max. temp.

A/121/V

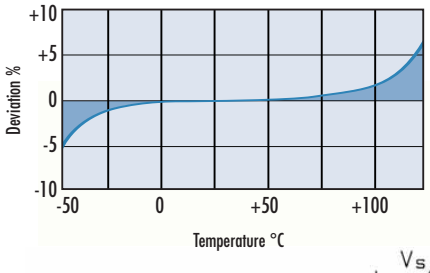
dims.mm



A/121/VI

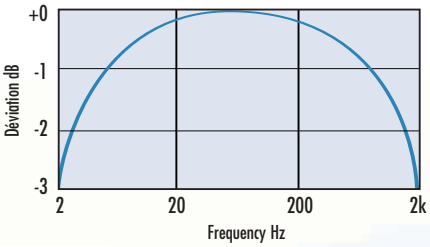


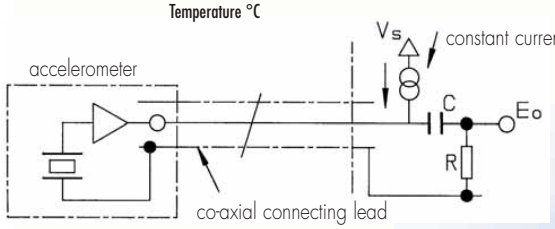
TEMPERATURE RESPONSE



FREQUENCY RESPONSE

with 2kHz L.P. FILTER (optional on option 3)





CONVERSION MODE	KONIC/2 WIRE QVC		
sensitivity option →	**1**	**2**	**3**
Voltage sensitivity, ±5% @ 20°C mV/g	100	316	1000
Resonant frequency kHz	9		
Cross axis error % max	5		
Temperature range °C	-50 / +125		
Voltage sens. deviation re 20°C	-5% @ -50°C		+5% @ +125°C
Pyro-electric output, g/°C	0.08		
Pyro-electric corner freq. Hz	0.001		
Base strain sens. g/μ strain	0.01		
Max continuous accn. g sine	500		
Supply voltage V	15/35		
Supply current mA	2/15		
Bias voltage V (20°C)	8.5/9.5		
Settling time to 90% final val. secs.	5	5	5
Noise level, mg, wideBand	3	2	1
Bo 2000Hz (/VI) mg	0.3	0.15	0.08
Min. L.F. corner frequency, Hz	0.2	0.7	2
Saturation limit, equiv. g	45/50	14/15	4.5/5
Output resistance, (500Hz) ohms	30	50	100
Case material	s/steel 303 S31		
Mounting	base tapped 10/32 UNF x 4mm deep		
Weight gm	90		
Connector	Microdot skt.10/32 UNF thd.Isolated (/VI)		
Connector/case insul. resce (/VI) MΩ	> 100		
Case seal	welded		

High output KONIC vibration transducer c/w integral two wire charge/voltage converter (QVC), and incorporating for A/121/VI a three pole bandpass filter for noise rejection, case isolated signal outlet for common mode interference rejection.

The bandpass filter utilizes the inherent single pole high pass property of the QVC, but made application specific rather than maximised, combined with an R-C two pole passive low pass section inserted prior to the QVC. The LP section current limits the sensing element, hence reduces high frequency modulation products and consequent phantom low frequency signal generation.

Noise level is a function of 3dB bandwidth B, approximating to $e_{no} \times \sqrt{B1/Bo}$, where B1 is the required bandwidth, e_{no} the noise level corresponding to bandwidth Bo as tabulated below. The bandpass filter should be restricted to an upper frequency limit of 2kHz, i.e. 2 octaves below mechanical, resonance otherwise the overall response will be resonance dominant.

options

- non standard sensitivities within range 100/1000mV/g
- wideband temperature calibration -50/+125˚C.