High EMI resistance accelerometers

HV100 and HV200 series

Wilcoxon's HV series are designed for demanding applications requiring high electrical isolation between the sensor and machine. HV sensors can withstand arcing between the sensor base and its internal electronics to levels as high as 6,000 volts. The sensors offer improved EMI resistance in areas where high electromagnetic interference occurs, such as wind turbines, railway systems and other high-voltage generators. Improvements in EFT and ESD resistance improve survivability during extreme transient events. The HV series are available with a variety of mounting options to ensure compatibility with every application.

Models available

HV models	Output connector	Integral mounting
HV100	4 pin, M12	M8 x 1.25
HV101		1/4-28 UNF
HV102		M6
HV200	2 pin, MIL-5015	1/4-28 UNF
HV201		M8 x 1.25
HV202		M6

Key features

- Case-base isolated up to 6 kV
- Ideal for power generation applications
- Rapid shock recovery
- Improved EMI resistance
- Manufactured in an approved ISO 9001 facility

Certifications

CE

Note: Due to continuous process improvement, specifications are subject to change without notice.
This document is cleared for public release.

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High EMI resistance accelerometers

HV100 and HV200 series

SPECIFICATIONS

Sensitivity, ±5%, 25°C		100 mV/g
Acceleration range, VDC > 22 V		80 g peak
Amplitude nonlinearity		1%
Frequency response:	**±5%**	3 - 5,000 Hz
	±10%	1 - 7,000 Hz
	±3 dB	0.5 - 12,000 Hz
Resonance frequency		25 kHz
Transverse sensitivity, max		5% of axial
Temperature response:	**–40°C**	–10%
	+120°C	+10%
Temperature range		–40° to +120° C
Power requirement:		
Voltage source		18 - 30 VDC
Current regulating diode		2 - 10 mA
Dielectric withstand voltage between connector and surface:	**6,000 VDC**	1 min.
	5,000 VAC	1 min.
Electrical noise, equiv. g:		
Broadband	**2.5 Hz to 25 kHz**	700 µg
Spectral	**10 Hz**	10 µg/√Hz
	100 Hz	5 µg/√Hz
	1,000 Hz	5 µg/√Hz
Output impedance		100 Ω
Impedance, between connector and base:		
	DC	>100 GΩ
	100 Hz	>100 MΩ
	1.0 kHz	>10 MΩ
	10 kHz	>1 MΩ
Bias output voltage		12 VDC
Grounding		case isolated, internally shielded
Vibration limit		500 g peak
Shock limit		5,000 g peak
Electromagnetic sensitivity, equiv. g, max		70 µg/gauss
Sealing		hermetic
Base strain sensitivity		<0.0002 g/µstrain
Sensing element design		PZT, shear
Sensor case material		stainless steel
Isolation material		ceramic
Recommended cabling		J10 / J9T2A

Connections - HV100 series	
Function	Connector pin
signal	P1
to pin 3 inner shield	P2
common	P3
case	P4
connector shell	case

Connections - HV200 series	
Function	Connector pin
signal	A
common	B
connector shell	case

See page 3 for further specifications, dimensions and drawings.

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