Low-frequency, high EMI resistance accelerometers

HV100LF and HV200LF series

Wilcoxon's HV series are designed for low-frequency applications where high electrical isolation between the sensor and machine is required. 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 HV100LF/200LF series has superior performance down to 0.1 Hz.

Models available

HV models	Output connector	Integral mounting	Sensitivity
HV100LF	4 pin, M12	M8 x 1.25	100 mV/g
HV100LF-500			500 mV/g
HV101LF		1/4-28 UNF	100 mV/g
HV101LF-500			500 mV/g
HV102LF		M6	100 mV/g
HV102LF-500			500 mV/g
HV200LF	2 pin, MIL-5015	1/4-28 UNF	100 mV/g
HV200LF-500			500 mV/g
HV201LF		M8 x 1.25	100 mV/g
HV201LF-500			500 mV/g
HV202LF		M6	100 mV/g
HV202LF-500			500 mV/g

Key features

- Ultra low-frequency measurements
- 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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Low-frequency, high EMI resistance accelerometers

HV100LF and HV200LF series

SPECIFICATIONS

		LF series	LF-500 series
Sensitivity, ±5%, 25°C		100 mV/g	500 mV/g
Acceleration range, VDC > 22 V		80 g peak	10 g peak
Amplitude nonlinearity		1%	
Frequency response:	**±5%**	0.35 - 5,000 Hz	
	±10%	0.25 - 7,000 Hz	
	±3 dB	0.1 - 11,000 Hz	
Resonance frequency, nominal		28 kHz	
Transverse sensitivity, max		5% of axial	
Temperature response:	**–25°C**	–10%	
	+120°C	+15%	
Temperature range		–50° 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**	400 µg rms	250 µg rms
Spectral	**10 Hz**	10 µg/√Hz	3 µg/√Hz
	100 Hz	5 µg/√Hz	2 µg/√Hz
	1,000 Hz	5 µg/√Hz	2 µg/√Hz
Output impedance, max		100 Ω	300 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		13 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, max		0.0002 g/µstrain	
Sensing element design		PZT, shear	
Sensor case material		stainless steel	
Isolation material		ceramic	
Recommended cabling		J10 / J9T2A	

Connections - HV100LF series	
Function	Connector pin
signal	P1
to pin 3 inner shield	P2
common	P3
case	P4
connector shell	case

Connections - HV200LF series	
Function	Connector pin
signal	A
common	B
connector shell	case

See page 3 for further specifications, dimensions and drawings.

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