



## **Rugged Low-Noise Low Power Force-Balanced Velocimeter/Accelerometer CLVA300**



The **CLVA301/303** is an improved high sensitivity uniaxial/triaxial force balance sensor with both velocity and acceleration outputs. Unlike piezoelectric sensors, the servo force balancing arrangement offers acceleration frequency response down to DC. The velocity output has a 0.1Hz to 100Hz frequency range. The instrument offers low noise, high dynamic range, and is perfectly suited for most strong motion monitoring applications. The unit can be mounted either horizontally or vertically.

The standard packaging is a NEMA-4X painted die cast aluminum case with mounting holes and a weatherized circular connector. The sensor elements are housed in an epoxy sealed aluminum case. Special waterproof submersible, corrosion-proof custom packaging is also available. They are extremely rugged, and designed for long-term deployment in field environments. Unlike solid-state type accelerometers, the **CLVA301/303** does not exhibit significant drifting with temperature changes.

## CLVA300 Specifications

Parameter	Specification
Principle of Operation	Force-Balanced Servo Sensor
<b>Velocity Outputs:</b>	
Full Scale:	$\pm 100 \text{ Kine}^1$ (4 IPS <sup>2</sup> )
Passband:	0.1Hz to 100Hz $\pm 3$ dB (damping 70% critical)
Output Signal Swing;	$\pm 5\text{V}$ ; $\pm 10\text{V}$ ; $\pm 20\text{V}$ differential; 0 to 5V; $\pm 2.5$ ; $\pm 5\text{V}$ ; $\pm 10\text{V}$ Single-ended;
Sensitivity:	1V/Kine <sup>3</sup> (2.54 V/ IPS)
Spectral Noise:	1 ~ 70 Hz, < 20 $\mu\text{Kine}$ (rms)
<b>Acceleration Outputs (optional):</b>	
Full Scale:	$\pm 2\text{g}$
Passband:	DC to 100 Hz +1dB, -3dB
Spectral Noise ( for 1/3 octave band ):	1 to 100 Hz, < 1 $\mu\text{g}$ (rms)
Output Signal Swing;	$\pm 5\text{V}$ ; $\pm 10\text{V}$ ; $\pm 20\text{V}$ differential; 0 to 5V; $\pm 2.5$ ; $\pm 5\text{V}$ ; $\pm 10\text{V}$ Single-ended;
Dynamic Range	128 dB @ $\pm 10\text{V}$ differential
Zero g Bias	$\pm 0.005\text{g}$ electronic adjustment
Linearity	$\pm 0.2\%$ FS over temperature range;
<b>General:</b>	
Cross Axis Sensitivity	0.02g/g;
Operating Temperature Range	-10 to +50C
Supply Voltage	12V nominal
Supply Current (max. for triaxial instrument)	30mA
Vibration (max.)	10g p-p in 2 – 2000Hz band
Shock (max.)	1000g, 1ms; 100g, 11ms
Humidity	95% R.H. Optional 100% R.H.
Housing Standard: Optional:	Aluminum NEMA4X; Customized Stainless Steel; Borehole; Submersible.

<sup>1</sup> 1 Kine = 1 cm/s

<sup>2</sup> IPS = inch/s

<sup>3</sup> Or 1cm/s/V

*Specifications subject to change without notice*

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