
Packing is being redesigned. Picture does not reflect current model

This unique instrument has been developed for the US Department of Energy for use as a wide passband highly sensitive vibration sensor in the beam focusing system of linear super-colliders (very high energy particle accelerators). As such this sensor is radiation resistant and functions normally in extremely strong magnetic fields – up to 6 Tesla.



The eentec electrochemical seismic sensors are the only ones among all known devices that can adequately perform in such environments. The sensors were successfully tested in magnetic fields up to 1T at the Stanford Linear Accelerator Center (SLAC) and demonstrated complete immunity to the field.

Each seismometer has a single component sensor that can work as either horizontal or vertical with the sensitivity axis in the direction indicated by the arrow. The sensor is essentially isotropic – i.e. it will perform equally well in any random orientation. Its extremely small dimensions fully answer severe space limitations imposed by the linear colliders focusing systems.

The sensors are planned for use on the International Linear Collider (ILC). eentec is working on further improvements of the **SP-500** characteristics, in particular, increasing its sensitivity and extending frequency response toward very long periods.

SP-500 Specifications

Operating principle:	Electrochemical motion transducer with high damping coefficient
Output signals	Velocity-flat response
Output signal swing	±20V (40 V p-p differential)
Dynamic Range	120 dB @ 1Hz
Bandwidth	0.066 – 50 Hz; <i>Optional</i> : 100Hz
Sensitivity	1 nm @ 10 Hz
Generator constant	<i>Standard</i> : 2000 V/m/s; <i>Opt.</i> : 350 – 20,000 V/m/s
Mass Lock	NONE REQUIRED
Mass Centering	NONE REQUIRED
Maximum installation tilt	Std +/-10 deg (<i>Optional</i> : fully operational at any random orientation)
Mechanical resonances	>200 Hz
Temperature range	Standard: -12 to + 55 °C
Dimensions	50 x 100 x 150 mm
Weight (Al housing)	~0.75 kg
Power – Standard	10 – 15 Vdc; 12 Vdc nominal
Supply current	8 mA
Connector	14-pin circular or customized

Specifications subject to change without notice

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