

SI-531 Vibration Module

- 1. Description.** The SI-531 Vibration Module is designed to operate with 500mV/g constant current type accelerometers to provide four outputs useful in vibration monitoring and analysis. The unit is housed in a compact DIN-Rail mounting plastic case and operates from 24VDC at 25mA. Terminal connections are shown in Fig.1.overleaf.
- 2. Accelerometer Power.** The SI-531 provides a 3.6mA constant current supply to an accelerometer which connects directly to the module input terminals.
- 3. TDX OK LED.** A green LED on the front of the unit indicates correct connection of the accelerometer. The LED will not light if input wiring short or open-circuits are present. To prevent problems due to spurious input signals, both 0-10V outputs are set to 0V if the TDX OK LED is not lit.
- 4. AC Output.** A buffered, but un-filtered AC output proportional to the acceleration signal is provided via a BNC connector mounted on the front panel. The 500mV/g signal is not AC coupled and swings about the accelerometer bias voltage level. If a data-collector is used to monitor this signal for vibration analysis, it must set for AC input and have its sensor power function turned off.
- 5) Velocity Output.** This is a 0-10V output proportional to rms velocity in mm/s. The signal conditioner has high and low pass filters to limit the measurement bandwidth to 0.3Hz to 3Hz. The output range is set at the factory at 0-10V = 0-6000mm/s.
- 6) Enveloped g Output.** This 0-10V output is useful for detecting problems in ball or roller bearings where signals from high frequency impacts are masked by the lower frequency vibrations proportional to shaft rotational speed. The enveloper input circuit bandwidth is 200Hz to 2KHz and the output range is set at the factory 0-10V =0-0.2gE.
- 7) AC Envelope Output.** This is a buffered AC output from the enveloper circuit which swings about a 9VDC reference level. The 500mV/g signal can be used for vibration analysis via a Data-Collector.

Fig.1.

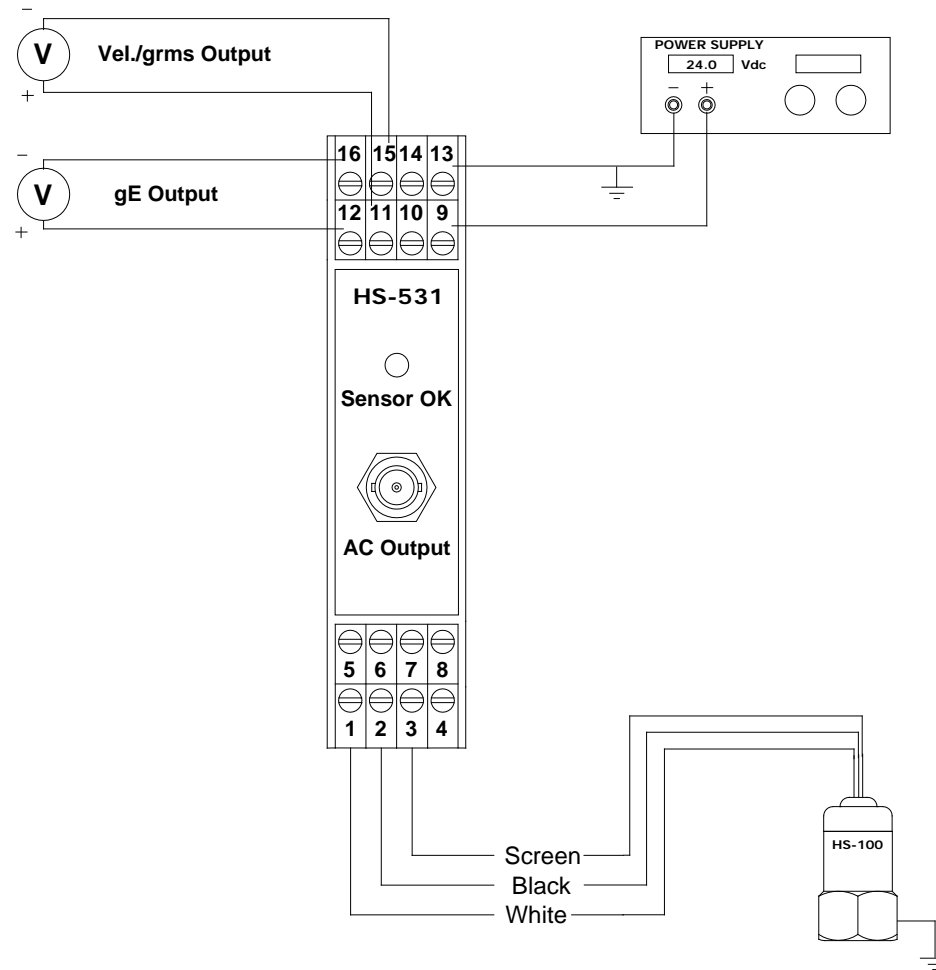
HS-531 Terminal Connections

- 13 - 0V Power In
- 14 - 0V Env. AC Output
- 15 - 0V (Vel./grms 0-10V Out)
- 16 - 0V (gE Output)

- 9 - +24Vdc In
- 10 - Env. AC Output
- 11 - Vel./grms 0-10V Out + (0-6000 mm/s)
- 12 - gE Output + (0-0.02 gE)

- 5 - As 1
- 6 - As 2
- 7 - As 3
- 8 - No Connection

- 1 - Accel. + IN
- 2 - Accel. 0V IN
- 3 - Accel. Screen
- 4 - No Connection



HS-531 and SI-531 are synonymous.