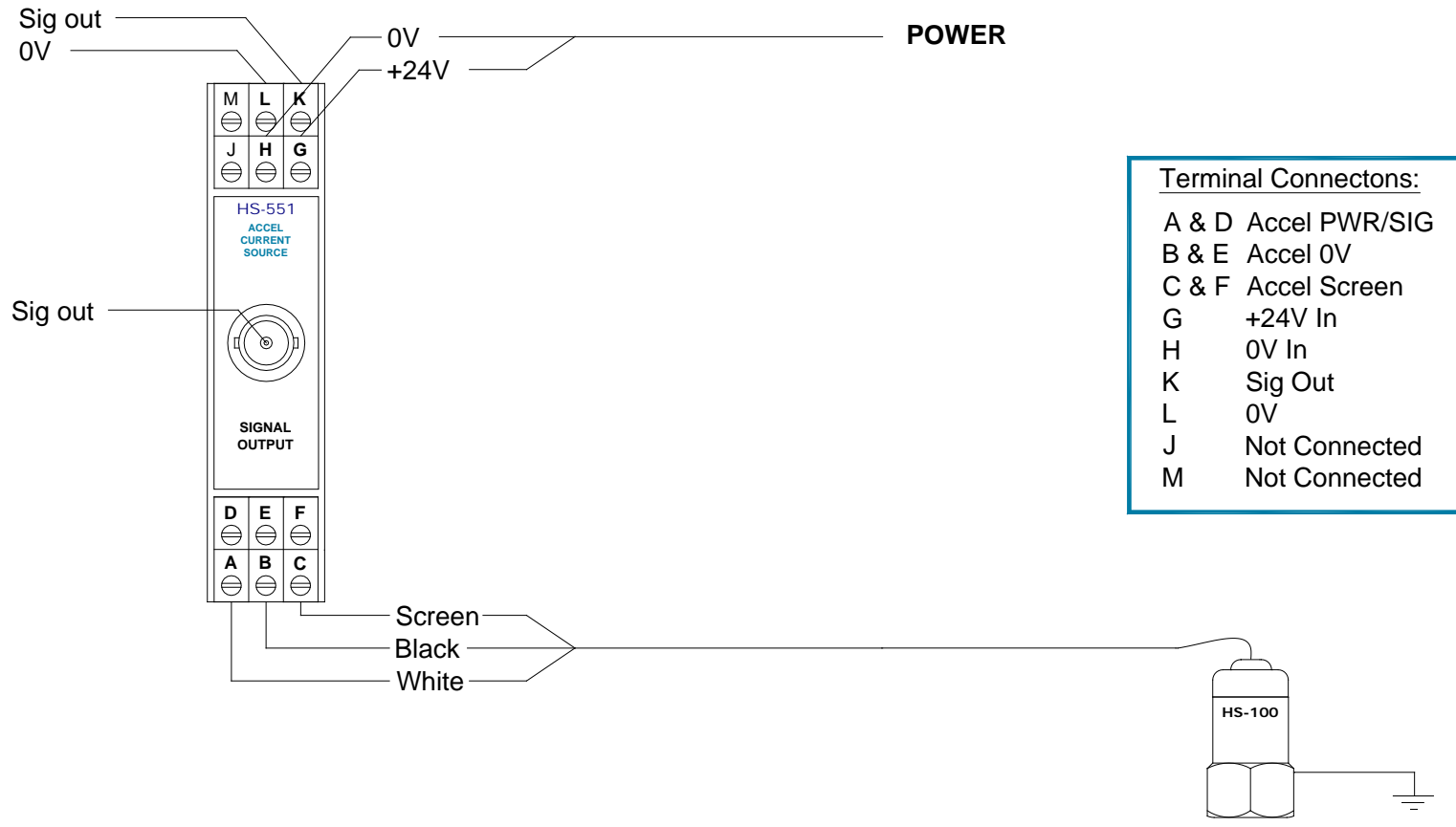




SI-551 Accelerometer Power/Signal Module

- 1. Description.** The SI-551 is a DIN Rail mounting unit designed to provide power for a two-wire constant current type accelerometer such as the Spectrum sensors SI-100 series. The SI-551 is suitable for high density installations in DIN Rail signal conditioner boxes. The module requires a 24VDC supply, such as the SI-570, to drive the constant current accelerometer. Input and output connections are via screw terminals. In addition, a BNC socket is provided on the module for vibration signal analysis with an oscilloscope, spectrum analyser, or portable data logger.
- 2. Operation.** The SI-551 module should be connected as shown in Figure 1 overleaf. The input terminals A B C are internally connected to terminals D E F which provide a raw output signal including the accelerometer DC bias voltage. The output from the BNC socket and from terminals K and L is an AC acceleration signal with the DC bias voltage removed. If using a portable data logger to monitor vibration at the BNC socket, the internal constant current supply in the data logger must be turned off.
- 3. System Grounding.** In many industrial environments the low amplitude signals generated by accelerometers are susceptible to corruption by pick-up from nearby electric fields or by earth loop currents. Careful grounding and shielding arrangements must be made to eliminate these from the measuring system.
To avoid signal pick-up, the requirement is that the accelerometer body should be connected to the 0V of the power supply that provides the accelerometer power. In many applications this can be easily achieved by connecting the accelerometer screen wire to the black wire at the SI-551 terminals ie. link terminals B & C or E & F.

Figure. SI-551 Connections



SI-551 and HS-551 models are synonymous.

4. SI-551 Specification

Power Input	-	24VDC \pm 10% @ 5mA max.
Accelerometer Driving Voltage	-	22.5VDC
Accelerometer Constant Current	-	3.5mA \pm 20%
Maximum Output	-	\pm 9V
Sensitivity	-	Nom. 100mV/g or as stated on the Accelerometer Calibration Sheet
Frequency Response	-	1Hz to 100kHz \pm 3dB
Temperature Range	-	0 to 55°C
Dimensions	-	120 x 75 x 24mm (H x Dx W) including BNC
Weight	-	76 gms (nom)