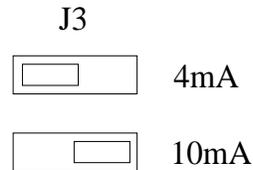


SI-550 Accelerometer Power Source & Signal Amplifier

1. **Description.** The SI-550 is a DIN Rail mounting unit designed to provide power for a two-wire constant current type accelerometer. The SI-550 is suitable for high density installations in DIN rail power supply and signal conditioner boxes. The accelerometer constant current supply is selected at 4mA or 10mA via an internal link and signal amplification is selectable at x1, x10 or x100 via an internal DIL switch. A ‘TDX Fault’ LED indicator on the front panel illuminates if the accelerometer is faulty or disconnected. The SI-550 operates from a 24VDC supply and connections are made to screw terminals.

2. **Operation.** The accelerometer current is set at the factory at 4mA, which is suitable for most applications. If high frequency measurements with long cable lengths are required then the accelerometer current should be set to 10mA by fitting the internal link J3 in the right-most position as shown. The voltage gain of the unit is set at the factory at x1 and can be set to x10 or x100 via the DSW1 switch setting shown below. Both setting operations can be done on removal of the enclosure right-hand side cover.

DSW1		
SW1	SW2	Gain
off	off	x1
on	off	x10
off	on	x10
on	on	x100



On connection and power-up the unit will sense the bias voltage of the accelerometer. If the accelerometer bias voltage is less than 5V or greater than 15V or if the accelerometer is not connected, the red ‘TDX Fault’ lamp will illuminate. Note that if the accelerometer bias voltage is less than 9V or greater than 13V then the maximum voltage swing will be reduced and output clipping may occur.

Terminal Connections

- A - Accel. Power/signal input
- B - Accel. 0V
- C - No Connection
- D - Connected to A (for loop out)

E	-	Connected to B (for loop out)
F	-	No Connection
G	-	AC Signal Output
H	-	0V
J	-	No Connection
K	-	+24V Power In
L	-	0V Power In
M	-	No Connection

3. Specification

Power Input	-	24VDC \pm 10% @ 20mA max.
Accelerometer Driving Voltage	-	22.5VDC
Accelerometer Constant Current	-	4mA or 10mA selectable via link
Maximum Output	-	\pm 9V at x1 gain \pm 5V at x10 gain \pm 4.5V at x100 gain
Voltage Gain	-	x1, x10, x100 selectable via DIL switch
Frequency Response	-	1Hz to 120KHz -3db at x1 gain 1Hz to 50KHz -3db at x10 gain 1Hz to 10KHz -3db at x100 gain
Broadband Noise (1-10KHz)	-	70 μ V rms at x1 gain 650 μ V rms at x10 gain 3mV rms at x100 gain
Fault Indication	-	Red LED 5V >V bias >15V
Temperature Range	-	0 to 55°C
Dimensions	-	100mm x 75mm x 24mm
Weight	-	0.076Kg